THE MACINTOSH™ MAGAZINE FOR THE REST OF US

THE MACazine

April 1987

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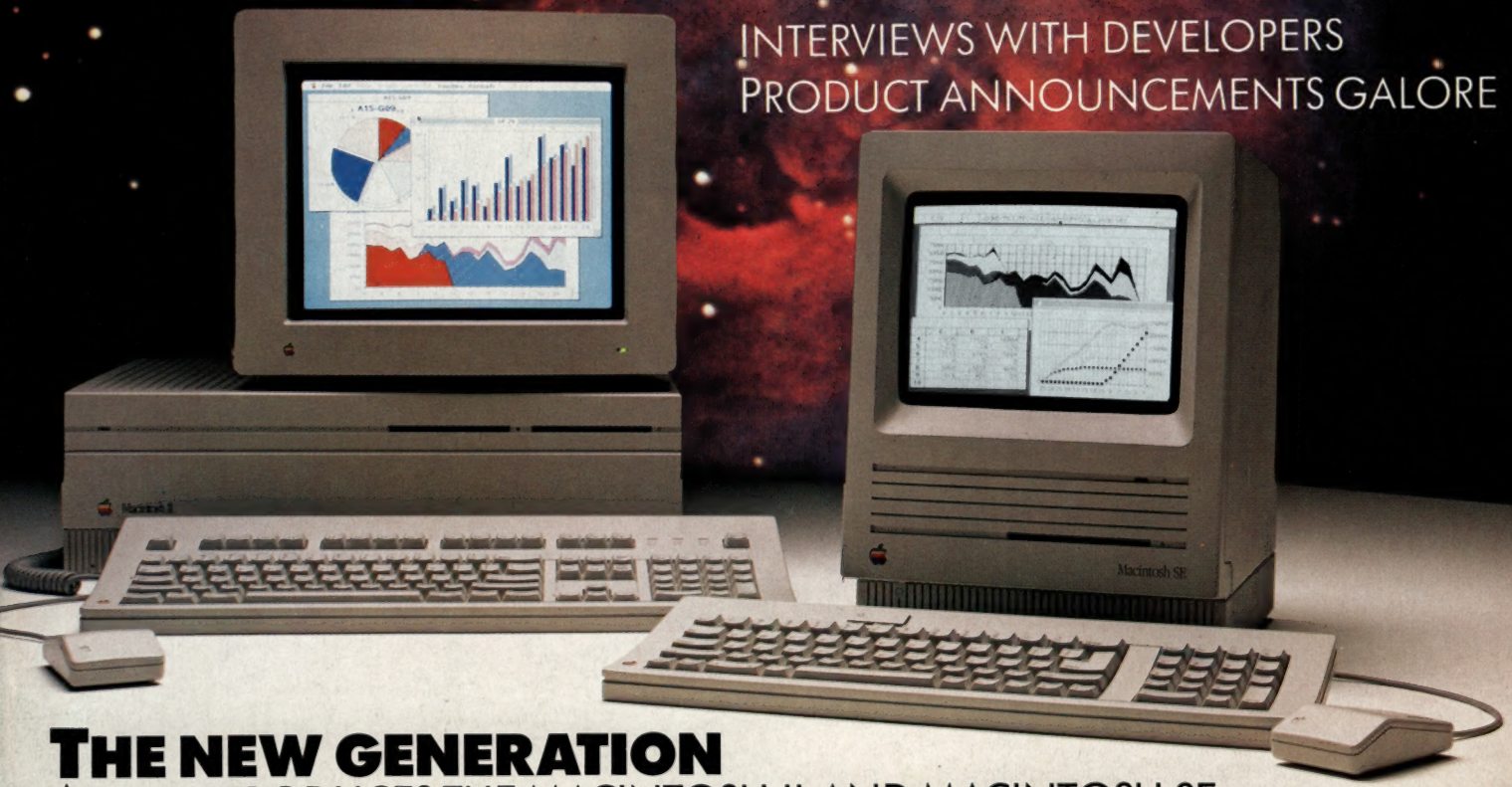
MACWORLD EXPO: SAN FRANCISCO '87
WHAT'S NEW

RELATIONAL DATABASES:
IN-DEPTH COVERAGE OF REFLEX, OMNIS 3, AND HELIX

INTERVIEWS WITH DEVELOPERS
PRODUCT ANNOUNCEMENTS GALORE



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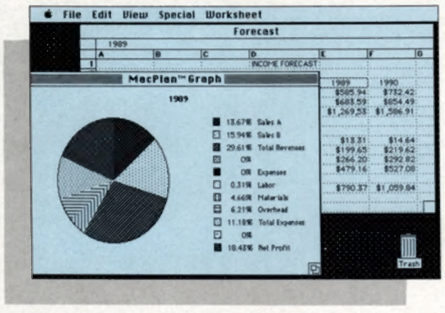

MacPlan does both spreadsheets and business graphs. Paste them into your Outlook files and generate professional reports.

SideKick: The Desktop Organizer, Release 2.0 now includes

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- ☑ MacPlan: The Spreadsheet
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- ☑ Calendar
- ☑ PhoneLog
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- ☑ Calculator
- ☑ Report generator
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Upgrade Now! *If you are one of the thousands of SideKick users, just send us your original master disk back with a check for $34.95, and we'll rush you a brand new SideKick, Release 2.0, complete with manual.*

*Introductory offer expires July 1, 1987

Outlook: The Outliner

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Reflex: The Database Manager— MacUser Editor's Choice Award

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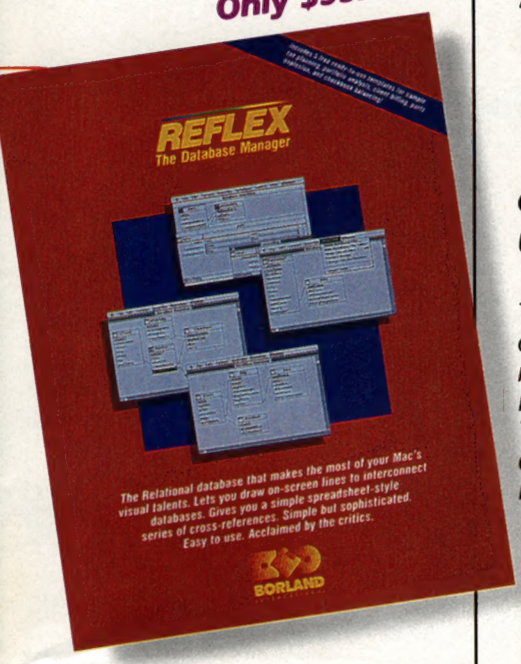
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The Critics' Choice

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Robert Forras, MacTimes

Turbo Pascal is already an industry standard in the IBM-compatible world and we're very excited to see Borland International's new commitment to provide this and other modestly-priced, high-quality software for the Macintosh computer.

John Sculley, Apple Computer, Inc."

System requirements:

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Volume 4, No. 4

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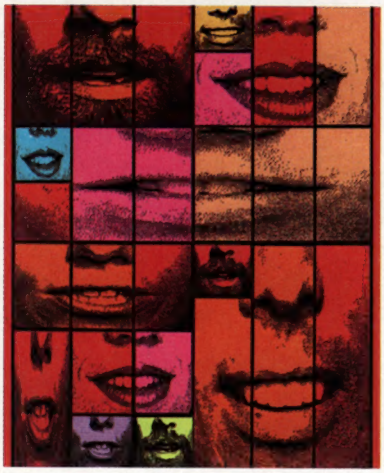

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Publisher
William L. Hart

Editor-In-Chief
Bob LeVitus

Assistant Publisher
Cynthia Leonard

Technical Editor
C. J. Weigand

Contributing Editors
Howard Bornstein
David Clark
Jerry Daniels
Arnie Katz
George Litterst
Larry Pina
Don Rittner
Joost Romeu
Mark Veljkov

Production Director
Sharon M. Green

Production Manager
Norma Gipson

Art Director
Michael Gosney

Designer
John Odam

Administrative Assistants
Genea Van Deman
Sarah Martinez

Circulation Manager
Norma Lane

Subscription Dept.
Stephanie Hodne
1-800-624-2346
(in Texas) 512-467-4550

Advertising Director
Charles Abrams

Advertising Sales Offices
San Francisco:
Charles Abrams, Advertising Director .....(415) 931-7299

New York:
Steve Branda, Eastern Sales Manager .....(201) 488-7900

Los Angeles:
Brent Reuman, Western Sales Manager...(818) 992-5527

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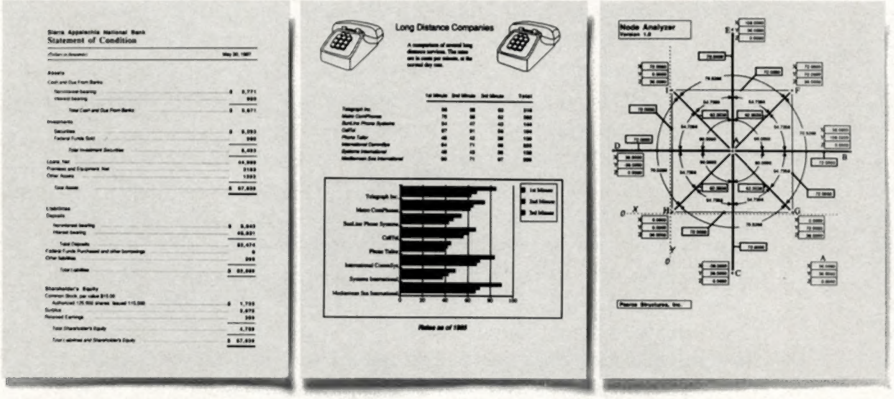

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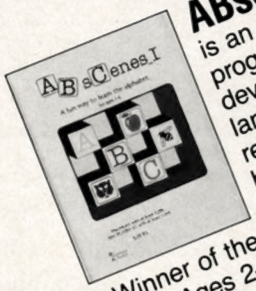

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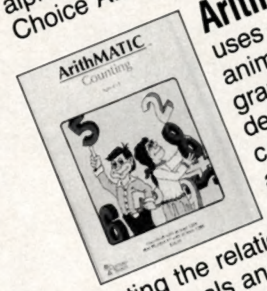

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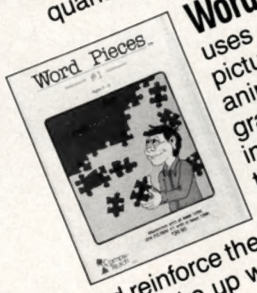

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Publisher's Potpourri

As the new publisher of *THE MACazine*, I decided to attend the Macintosh show in San Francisco in January to learn more about the Macintosh and particularly its users. The show was sponsored by *Macworld*, who I understand publish another magazine for the Macintosh user. The fact that we were permitted to purchase a booth in a competitor's show was an interesting commentary on the character of the Macintosh marketplace. Even though we were somewhat buried in the show directory—under "T" for "The" instead of "M" for MACazine or even "I" for Icon Concepts, our corporate name—the show attendees and even the exhibitors found us. Boy, did they find us!

We gave out 15,000 copies of our January issue, signed up a bunch of subscribers, and even picked up some ads. And Bob LeVitus, our editor, had a busy time discussing new and proposed products for the Macintosh.

I expected a lot of beards and blue jeans, the stereotyped computer junkies. They were there, but they were outnumbered by the gray flannel trousers and blue blazers (actually brown khaki trousers), by women with notebooks and huge purses, gray-haired ladies with shopping bags, and lots and lots of three-piece suits—oh yes, and boots and western hats. (I wouldn't recommend boots for an eight-hour stint on your feet in a show booth!)

I had no idea that this one segment of the computer market could attract over 250 exhibitors with something to offer the present or prospective Macintosh user. This, of course, attests to the enormous popularity of the Macintosh for the home, the office, and the factory. It's an exploding market and I was simply unprepared for the large numbers generated by this show.

I wondered how the Macintosh user was ever able to come to grips with what is out there that will improve the performance or enhance the capabilities of his or her Macintosh. The show, of course, gave attendees a chance to browse and buy. All but the exhibitors, and even vendors who didn't attend, use direct mail—but it's tough to get an up-to-date list of Macintosh owners because they are a mobile crowd and they buy from so many sources that their names and addresses are very difficult to come by.

The best pipeline the user has to get information about new products is through user publications. The best way for a vendor to reach a user is to advertise in a user publication.

Of course, there are many reasons why *THE MACazine* is the best Macintosh user publication to match the buyer with the seller. Try us!

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Bill Hart, Publisher.

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Editorial

NEW MAC BLUES

Bob LeVitus

I came home from Cupertino with a case of the New Mac Blues like you wouldn't believe. I took a peek at the new Macs way back in January, when they were still code-named 'Cabernet' and 'Chablis,' and I've been sick ever since. All I can think about are Cheryl Tiegs and Del Yocam, digitized in glorious color, floating above a color trashcan icon. What an insidious disease it is—striking just before the introduction of a newer, more powerful computer. By the time you read this, you may be suffering from it too.

As Dave Winer (of Living Videotext) so aptly put it: "The Macintosh II is a lust machine." Don't say you haven't been warned! There's no question about it—what could be sexier (to someone like me at least) than a fast, powerful, enhancement-board-ready, COLOR Macintosh? It'll give Sun and Apollo a run for their money, and challenge the new 'desktop' VAX as well. It's a breathtaking technological breakthrough, and they'll probably sell millions of them to their intended market.

Which, unfortunately, probably won't include me. I can't afford one. Even if I could, I question the cost/benefit relationship—at least for me personally. I mean, let's be realistic—the CPU alone will cost about $3,500. Then, of course, a color monitor. And then something to stick into those slots. That runs the minimum investment up to, say, about five grand. Not exactly priced 'for the rest of us,' especially considering I have at least that much tied up in my Mac Plus already.

My wife asked me: "What can it do that your computer can't?" That was when it hit me. Surely the Macintosh Plus will be the best-selling 'nameplate' of the Macintosh family in 1987. More new software and hardware will be available for it this year than ever before, and all of it will be more powerful. There may be a new generation of Macs emerging, but the old generation isn't dead yet. Dollar for dollar, and program for available program, the Mac Plus is the best personal computer in the world today.

I don't do much number crunching or 3D, so I wouldn't benefit much from a math co-processor. I don't have access to a color laser printer (is there even such a thing?) or film recorder, so I really don't have much need for color. I don't know any DOS or UNIX machines on a first-name basis, so I can probably live without slots for a while longer.

The more I think about it, the more I believe my Mac Plus will be more than enough computer for me, at least for the next couple of years. It's fast, reliable, and—best of all—it's nearly paid for.

Even though it would be nice to do things somewhat faster, and in color, I guess you could say I don't really need that new Mac. You could even say I've recovered from my New Mac Blues almost completely.

Of course, competitive pressure will force *The MACazine* to spring for one eventually. Purely for journalistic purposes, of course.

As I said, I've recovered "almost" completely.

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MACMAIL

ELECTRONIC EQUIPMENT REPAIRS

My thanks for drawing attention to the problem of denying the technically informed user the opportunity to make simple repairs or adjustments, C.J. Weigand's 'Gripe of the Month' in the January '87 issue. In several instances I have been able to obtain schematics, in a couple of cases even as a condition of purchase. It's worth the try.

The ownership of the majority of electronic equipment these days amounts to a 'mortgage' to service establishments. Not only does that often prove unexpectedly expensive, but it also impairs—for me at least—my sense of pleasure as owner. With an increasingly 'hermetic' relationship between complex technology and its user, whether in a car's microprocessor engine control or a Mac, failure is so utterly 'hard.' Isn't there any way that consumer pressure can aid us in getting service manuals and more responsive design? There ought to be.

My thanks also for your excellently informative magazine, one of the few I look forward to reading cover-to-cover every month.

Peter J. Kindlmann

SMART ALARMS UPDATE

The following is a copy of a letter to Imagine Software, publishers of Smart Alarms *and* Appointment Diary:

Dear Imagine Software,

I am, to say the least, disappointed with your new upgrade, which I, as an original user, cannot make use of. My problem is that I have 250+ reminders on your first version and there is no way of reinstalling them onto your upgraded version. To make matters worse, I am unable to print out my Reminders File so that I would at least have a hard copy to work from in entering those 250+ reminders into the new version.

According to Shep Tamler, President of Imagine Software, the solution to your problem is stated in the instructions which accompanied the upgrade. To reiterate: If you know how to use ResEdit, *you can upgrade your existing Reminders File by copying the DITL resource with ID 131 from the new version and pasting it into your old Reminders File. If this operation is beyond your technical expertise, contact Imagine and they will perform the conversion for you.*

VAPORZINE?

Do you know what really ticks *me* off? Vaporzine! Paying for 12 issues a year and receiving 11 issues. Perspective (Vol. 3, No. 7) states '...subscribers will still get 12 or 24 issues as ordered.' Oh yeah, sure—how come the expiration date on my mailing address has not changed? Well, come on...what's *your* excuse for this consumer ripoff?

Gary Aron
San Marcos, TX

No excuses. We had been using an outside contractor for subscription fulfillment, an arrangement which has proven to be unsatisfactory. We are in the process of moving it to an experienced fulfillment house. By the time you read this, we should have the problem corrected. If your label does not reflect the right expiration date, please contact our circulation department and they'll correct it immediately. In fact, anyone who is still having a MACazine *problem of any type, please contact us. We apologize for the inconvenience.*

THE DEFINITIVE COMPENDIUM OF MACINTOSH DESK ACCESSORIES WANTS YOU!!

I'm a writer at Apple. A couple of my colleagues and I are putting together *The Definitive Compendium of Macintosh Desk Accessories* and would like to solicit your readers for some help.

We'd like to know how they use desk accessories, and which ones they find most useful. We're asking that they send us a disk with their favorites, along with a description on how the DA's are used. We'd also like to have any Macintosh users group who feels they have some innovative or practical DA's to send them to us as well, along with some of the more common ones submitted through the Shareware avenues. Please include, if possible, the names of the creators of these DA's. We want to ensure that credit is given where credit is due and to do all we can to help push the Shareware concept further. To developers of Macintosh DA's, we ask that if they are interested in having their products included, again, send us a package along with documentation and pricing information.

Remember, we're looking for variety.

All submissions should be accompanied by the sender's name, address, and phone number (if possible). If this project comes to fruition, we'd like to offer the book to submitters at a significantly reduced rate.

Please send DA's to DA Roundup, 3530 West Bayshore Rd., Palo Alto, CA 94303.

Thanks in advance for your help.

Eric Stouffer
Sunnyvale, CA

If you're a DA fan and you don't want to wait for this project to come to fruition, may we suggest contributing editor Howard Bornstein's new book, Under the Apple, *which includes detailed descriptions of over one hundred of the most useful DA's, as well as tips and shortcuts for their use. It's available from InfoBooks in Santa Monica, CA.*

TRUE CUSTOMER SUPPORT FROM TRUE BASICS

In the December issue of your magazine was a note from an end user praising the support he received from Living Videotext. At the end was a request from the editor to report experiences with suppliers, both good and bad. To that end I would like to contribute my experiences with a language supplier for the Macintosh.

True BASIC, Inc. Simply put, the best company I have ever had the pleasure of dealing with, bar none! Not only is their product—*True BASIC 1.2 for the Macintosh*—superb, but their support is out of this world.

Whenever I have a problem or question, I just pick up the phone and call. My calls have always been answered by friendly, polite, *informed* people who go out of their way to be helpful. The one time the support person was not immediately able to answer my question, she apologized, took my number, and said someone would get back to me. Forty-five minutes later I answered my phone to find one of the *product developers* on the other end with a detailed and insightful answer to my question.

It would seem that Kemeny and Kurtz not only wrote the book on BASIC, but on *true* customer support as well.

David Previs
Shelton, CT

Keep those cards and letters coming! We want to know your experiences with suppliers.

TOO HARD ON RSG3?

Today, two things of interest happened. I got the current issue of *MACazine*,and an unrequested update for *Ready,Set,Go!*arrived in the mail. I read your editorial with interest and felt that you might have been a little bit hard on Manhattan Graphics. I also had to wait about thirty days for my initial update but at no time was I concerned by the delay (I guess I've grown used to having to wait for mail orders) since the company has an established reputation. Delays with unknown companies would be much more likely to produce a sense of anxiety.

However, I was most impressed with the update mailed today. It came unannounced, and at no additional charge. This is the kind of support and service the software industry needs, and I believe that Manhattan Graphics should be applauded for this effort. It would be a shame, in my opinion, if users bypassed *Ready,Set,Go!* because of your article.

Paul Wassermann
Scottsdale, AZ

Perhaps we were a bit hard on Manhattan Graphics, but Rosenberg's attitude galled me. A few weeks later, he called to ask if I planned to attack Microsoft if Word 3.0*shipped late. The answer is yes, but Microsoft gets points for clearly stating in their solicitation that the upgrade would ship at the end of January. Manhattan Graphics, on the other hand, made no mention of the fact that the product wasn't available when they began their marketing campaign.*

As far as your comments about the free update, it is my understanding that both of the updates Manhattan Graphics shipped were primarily bugfixes and that little or no functionality was added. In a subsequent conversation with Rosenberg I asked about this and was told that the updates 'optimize the hypensation and tab routines.' Either way, the most recent version of RSG3*(creation date of December 15, 1986) is indeed an impressive product. It will be reviewed here in the near future.*

JERRY DANIELS—VILLAIN OR VISIONARY?

I noticed that your December and January issues include a column by Jerry Daniels, dba Online Publishing Systems and The Mac Underground.

As I'm sure you're aware, Mr. Daniels and his company recently filed for protection from his creditors under the Chapter 11 Bankruptcy Code (See attached document). However, the condition of his company has been public knowledge for months (in *MacTutor*,Nov. '86, p. 10).

The majority of Mr. Daniels' creditors are Macintosh owners like myself who responded to his misleading advertisements in your publication, sent him money for products or services which were not available as advertised, and have not received either the items ordered or a refund of our money. I don't know how many Macintosh owners were victimized by Mr. Daniels (probably hundreds) or how much money was stolen (certainly thousands).

Your mini-biography of Mr. Daniels at the bottom of his column makes no mention of the state of his company, and in fact misleads your readers into thinking it is an ongoing and legitimate enterprise.

I therefore insist, if in fact you have any commitment to serving Macintosh users, that you discontinue Mr. Daniels' column immediately, print an honest summary of his past activities and current situation, and explain to your readers why you have not done this sooner. If for any reason, personal or financial, you choose not to do all of these, please have the integrity to print this letter, cancel my subscription, and send me a refund for undelivered issues. Thank you for your attention.

John E. Payne
Valencia, CA

Jerry's December column clearly stated that he was writing for us because he owed us money for advertising. In his own words: "I . . . racked up such an incredible advertising bill with MACazine that I had to write a whole year's worth of articles just to break even. So I'm here 'washing dishes' as it were."

The facts are pretty clear: Jerry's a lousy businessman. As to your not knowing how much money was 'stolen,' if that was the case, he would not be writing for us today. Declaring bankruptcy is not stealing. No criminal charges have been filed, nor has Jerry been accused of anything more unsavory than being a poor businessman (which he freely admits in his own inimitable manner—see this month's 'On The Road' column).

I remain convinced that Jerry believed in his vision of free exchange of information. In the end, he fell victim to a situation experienced by many small business people—a good idea alone isn't enough. It may be a great beginning, but a successful business requires cash, money management, and financial planning. Good timing and a bit of luck don't hurt either. Jerry had none of the above.

Most people I talk to agree that Jerry is a talented and entertaining writer—one with unique insights into things Macintosh. This, along with the fact that he still owes us a chunk of change, are the reasons 'On The Road' will continue to appear.

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ON THE ROAD

By Jerry Daniels

As the Mac enters its fourth year as a real computer, I am reminded of a parallel phenomenon that took place as we entered the 1970's. This was a time when the Rock'n'Roll music business had become the get rich/famous occupation of my generation, the infamous baby boomers. A lot of talented, but very screwed-up people became rich AND famous. All you needed were three musician buddies, instruments/amps, and eight months to grow long hair. The Byrds even wrote a song that succinctly chronicled the formula for success in an exploding Rock'n'Roll industry:

So you want to be a Rock'n'Roll star?
Well listen now to what I say:
Just get yourself an electric guitar
And learn how to play;
Then in a week or two if you make the charts
The girls will tear you apart!

Rock'n'Roll had changed by the 1970's. The polish of the Beatles' 'Sergeant Pepper' and 'Abbey Road' had been applied to the business. It took MILLIONS just to be heard above the din of other musicians. It was a big business, and a lot of raw talent would never get through the corporate games and *bee ess*. Many of the initial greats would be unable to cope with the environs of the seventies. We had many casualties: Janis Joplin, Otis Redding, Marvin Gaye, Jim Morrison. Many of us ended up playing 'air guitar' to Who songs behind locked bedroom doors.

We are entering a growth/maturity stage within the Mac community. It isn't too different from the situation just described. Just like the rock industry, there were a lot of greats within the microcomputer industry. Like John 'Captain Crunch' Draper—who wrote *E-Z Writer* for the Apple II and the PC and was arrested in January for manufacturing counterfeit BART (Bay Area Rapid Transit) tickets. We don't see too many great programs out of him these days. Steve 'the Woz' Wozniak invented the Apple II, but is still grumbling about the Mac and seems resigned to living out the rest of his life as a legend. Microcomputers—and even our little friend the MAC—have become a big business.

In the Rock'n'Roll industry, the continual sophistication of music products doesn't really require any behavioral modification on the part of listeners. But in the case of the Mac, as the Mac market grows and development companies are forced to mature—buyers should become increasingly aware of the financial and management strength of the company who creates a software or hardware product. Why? Because users need continual technical support and enhancements from developers. We don't need Jimi Hendrix alive to enjoy his rendition of 'Little Butterfly'—especially if it's on Memorex. We *do* need Microsoft to be in business when we want help with *Word 3.0* (or 5.0 for the new Macintosh line).

There are other reasons why we should become company-watchers as well as program evaluators. With computers and a lawyer on every block, a company can go in and out of business SO FAST, it's shell-shocking. The software and peripheral hardware businesses that surround the Mac are no exception. Magazines with three-month lead times don't help, though online services HAVE made a difference. They can put a "brinkish" company out of business in a week with savagely-timed online comments or reviews.

Someday soon, the principals of startup businesses will have to pass tests and undergo interviews in order to open their doors for business and take in monies. It may end up like real estate brokers, although it *oughta* be more like passing the bar. But actually, all the testing in the world won't weed out bad business people and assure 'good' ones. Business takes place in real time; tests take place in your head—and I'm not sure the traits of a good start-up business person equate with the characteristics of a 'well' person. (More on THIS in a minute!)

OUR BUSINESS

One thing we know about the hardware and software business: the management of said companies have to be able to deal with multiple time lines. Successful software/peripheral company presidents are tomorrow's time travellers. They have to deal with the timescale of engineers which is somewhere in another universe. Then they have to work with printers who are brain-damaged from ink fumes. Then they have to get their announcements into trade magazines that hit the stands three months *after* ad and editorial copy have been submitted. The engineers and printers are always late and advertising media is always early. But payday is still every Friday and bills have to be paid by the tenth.

Add it all up: intangible products + no real liquid assets + multiple time lines = today's software/hardware marketing companies. These are the guys who fall prey to vaporware, receivables getting ahead (in time) of payables, and, finally, bankruptcy.

I've had firsthand experience with all these things. You see, I *theoretically* know how to balance a checkbook and keep ledgers, but I can't carry out even the simplest business tasks IN REAL TIME. I have been plagued with visions of alternate time/space lines and patterns since childhood—and I overreact to these, making it almost impossible to deal with business time lines and events. I can accurately predict the appearance of a new microcomputer, but could never give an accurate projection of estimated income for any company—even over a 90-day period.

I'm often asked: how bad a businessman can a guy be if he can make predictions and write such nifty articles? DIG THIS: I have racked up a HALF A MILLION in debt over a five-year period—a feat that took me three businesses and forty-five creditors to accomplish. What's more, this is my SECOND bankruptcy in ten years. Sometimes I feel like

John Candy's character in 'Cursed with Charisma.'

SAY IT AIN'T SO, JOE (JERRY)!

It's so! And the strangest aspect to all of this is: I *foresaw* such a fate for myself in the sixties and tried very hard to avoid it. Let me bore into you with some of the details. (Hang in there, this leads somewhere!) In 1968, at the tender age of nineteen, I was arrested and jailed for practicing an alternate lifestyle in a nondesignated time zone. Even though I was later acquitted, I thought: hm-m-m, JD, you've got one of those addictive personalities—just like some of your alcoholic forebearers. Better clean up your act. You don't want to raise kids who keep repeating the process.

I avoided recreational chemicals (Alcohol—drugs—tobacco), sought matrimony, and buried myself in books'n'work. I even stopped eating animals with too much karmic clout (quadrupeds)! My father died by the time I was twenty. We were NOT friends at the time. I sought further atonement in the form of alternate daddies: Buckminster Fuller and Maharishi Mahesh Yogi. These guys could never balance a checkbook either, but they did keep me sober. I haven't had a drink, a drug, a drag, or a cow since 1972. That's fifteen years. I may owe my life (such as it is) to Bucky and Maharishi. I might otherwise be jamming right now with Jimi and Janis.

So, I've come a long way since 1969, when even the army wouldn't take me after a psychological exam! Nevertheless, I still cannot have a checking account and I haven't had a credit card since 1979 (a self-imposed exile from the land of money floats). I see too many alternate futures to be trusted with any form of advanced payment tendered in the present.

Now . . . there's a reason why I've gone through all this soul-baring other than the sheer *mea culpa* of it all.

WHAT MY FAILURES HAVE TO DO WITH YOU

The best people for starting a business or movement are usually not well. The starters—the visionaries—often have addictive personalities that are out of balance. They are driven by their visions. They can't imagine doing something good without overdoing it and making it GREAT. Too great. Visionaries make great Amway people. They make great cultists. They make great evangelists and life insurance salespeople (redundant, JD). But are they good business people? Company presidents?

Unless the visionary gets linked with a good financial manager and/or financier, any undertaking of a long-term nature is doomed. Although the product of that vision might be brilliant, a real time business entity is needed to carry it on. In my case (we are picking on ME, aren't we?), the Mac Underground was taken over after my demise by the people who've been operating its nationwide nodes. They have a very sensible dentist, Paul McGraw of Kansas City, at the helm now—a man who can manage money *and* people. He's put 'teeth' into MU's marketing!! (Just a joke! This isn't a funeral!!)

The most important thing YOU (the end user) need to evaluate these days in the Mac market is THE COMPANY. Who makes the product? Can they stay in business? Is the company being overrun by an addictive, hypnotic personality? The Mac magazines should spend as much time interviewing company personnel as they do reviewing the programs and peripherals those companies create. For example: most Mac SCSI hard drives run fast and good. But which companies will be there when your drive goes down?

Interviewing—as opposed to reviewing—has to be done in moderation, of course. If I did a Mac magazine today, it would probably be like the 'David Letterman Show' or 'People Magazine.' But I don't have a magazine or a talk show, do I? Or do I? Hmmm . . .

Jerry: Paul, we have a talk show, don't we?

Paul*: Yes, Jerry, you've been 'on' since the mid-fifties—and we've got a great show tonight.

Jerry: Yes we do, Paul! We've got Avi Lipski—that's Avi LIP-SKI, ladies and gentlemen—the man behind MGM *Station*. Let's bring him on RIGHT NOW! If you please, a warm, warm welcome for Mr. Avi LIP-SKI.

(Insane cheering completely disproportionate to the stature of this tiny, shy man from Los Angeles.)

Avi: Thanks for having me on, Jerry. It's a pleasure to be here. Where ARE we, Jerry?

Jerry: You're in my head, Avi.

Avi: Oh.

Jerry: Don't worry, it's safe in here. I haven't had any drugs (other than pesticides) in fifteen years. Just don't write a check!

(Peals of laughter and confetti shot from guns!)

Seriously, Avi, you decided to use the Mac to go after a vertical market rather than try and release a mass market program. Why? Didn't you want to become a Mac rock'n'roll star like Andy Hertzfeld?

Avi: In retrospect, we do think it was safer business-wise to be a vertical market package, because there are more engineers, architects, and designers than there are current Mac users. But we actually chose the market we have the most background in: engineering. We're all engineers here, so we developed a CAD/CAM package. First for the Lisa and later for the Mac. I do agree that the market for all-in-one, be-all/end-all programs for the Mac is very hard to break into. And looking at things more from Apple's point of view, the Mac needs to go beyond a 'cult' machine and get to the larger markets—which are surprisingly vertical, not horizontal. Developers DO need to come up with more specific solutions to specific problems.

Jerry: And your specific solution . . .

Avi: Our first solution ran on the Lisa and was capable of creating designs AND operating machinery. Our code took up three megabytes of the Lisa hard disk. We decided on the Lisa, after looking at very expensive Sun workstations and a very hard-to-use *AutoCAD* on the IBM. We were heartbroken when the Lisa was dropped in July of 1985. Out of the seven engineers in our firm, I was the only one who wanted to stick with Apple. It took a lot of talking and some actual fighting to keep our firm an Apple firm. They thought Apple was flaky.

Jerry: Isn't that what Reagan called Moumar Khaddafi?

Avi: There WERE some strong sentiments here, but not that strong. In any case, we took ELEVEN MONTHS to develop a CAD/CAM program for the Mac 512. We didn't have any sales during that period. We were in an internally financed, one-year research and development phase. We didn't want to just slap together a quick'n'dirty CAD/CAM program like Bridgeport did with *E-Z Draft*. They're paying for that now. We're all engineers here. Very conservative.

Our final product—MGM *Station*(Micro Graphic Manufacturing Station)— is a CAD/CAM program with emphasis on the CAD part. It's for designers, engineers and architects who want to make accurate blueprints and don't want to pay for a Sun workstation or toil with *AutoCAD*on the IBM. Our program makes good use of the Mac's interface but doesn't sacrifice speed.

Jerry: Sounds interesting. Hal, do we have that clip of Avi's program?

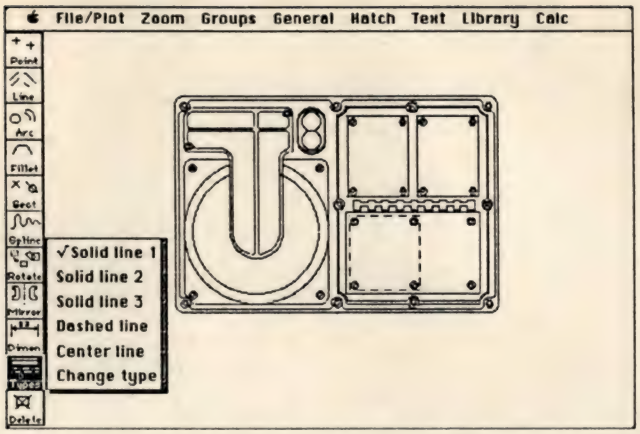
Hal*: (Over studio speakers.) Yes, Jerry. It's ready.

Jerry: Avi, do we need to set this up for the folks at home and in the studio audience?

Avi: It's fairly self-explanatory—if they're engineers.

Jerry: You seem to have taken some liberties with the traditional Mac interface. Menus pop out of the 'tools' which run down the left of the screen and your dialogs aren't the usual double-bordered boxes in the middle of the screen. Why is that?

Avi: This was one of the decisions that will tell you what kind of a company we are. By showing the Mac around to fellow engineers, we found that the screen was just too small. We didn't want any dialog boxes or tools to crowd this already tiny screen. We spent months coding our own dialogs that pop down from the top and tools that pop out from the side with additional menus. We make absolute minimal intrusion into the work area of the screen.



Jerry: Let's switch gears back to another point brought up in my monologue: can your company hang in there? Are you the quintessential struggling startup? Should we be banking on (and with) you?

Avi: That's a serious question, Jerry. We are very stable financially for one thing. We're not in debt and are internally financed. No banks or venture capital. We work through a network of dealers and distributors, so there's no possibility of any end-user money mismanagement. We've been doing this for three and half years now and we have a proven track record of stability, staying power, and commitment.

Speaking of commitment...we're hoping that, in the next ninety days, Apple will give a clear signal to the engineering market that they're serious about CAD/CAM and that there is software out here that can do the job. I'm hoping they'll endorse us just like they endorsed *PageMaker*. That type of clear signal is what began the avalanche we call Desktop Publishing.

There are other precedents, too. IBM pointed to *AutoCAD* as a software solution on their machines. Apple needs to do the same with somebody's Mac CAD/CAM program. It will help all of the Mac developers in the engineering market.

Our publicist, Marc Halberstadt, suggested to me that we send out a *National Enquirer* style 'tattler' sheet to the various computer and engineering press, detailing the flirtatious 'affair' Apple has been having with our program and with the CAD market in general. It would talk about the fact that we began dating during the summer of '86; we were 'seen' together in 12 cities on the Apple road show; and we 'eloped' with Apple to China where we turned up in 25-30% of their software demos.

We think Apple needs to make a commitment. We made a commitment to them.

Jerry: I think you've given our viewers some real insights into your program, your company, and the crazed mind of your publicist, Avi. I'll tell my engineer friends about MGM *Station*, and Hal will have your company name, address, and phone on camera in a minute. I wish you all the success in the world and thanks for joining us tonight.

(Daniels turns to Camera Two.)

That's all we have time for tonight, folks. Please join me next month when we explore 'Lifestyles of the Bright but Lethargic'—and all you visionaries with addictive personalities, a warning from the Byrds...

Don't forget who you are; you're a Rock'n'roll star!

Our guest tonite was...

Avi Lipski
MGM Station
Micro CAD/CAM, Inc.,
3230 Overland Ave., Ste. 105
Los Angeles, CA 90034
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*'Paul' and 'Hal' are the names of the bandleader and the director of the *David Letterman Show* respectively.

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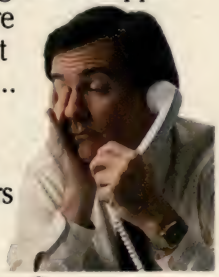

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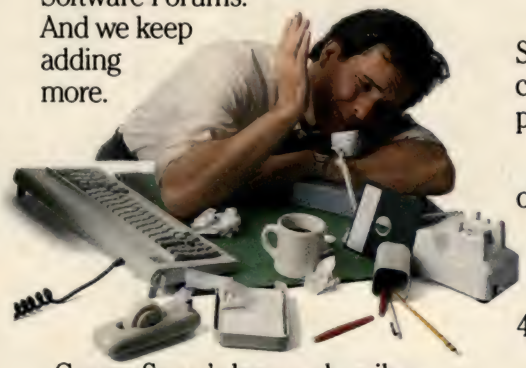

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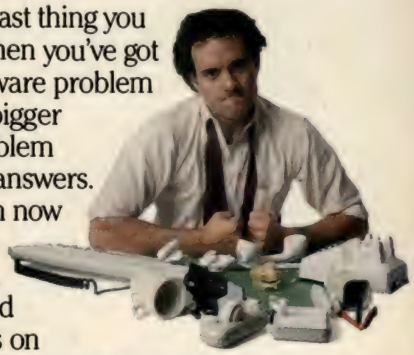

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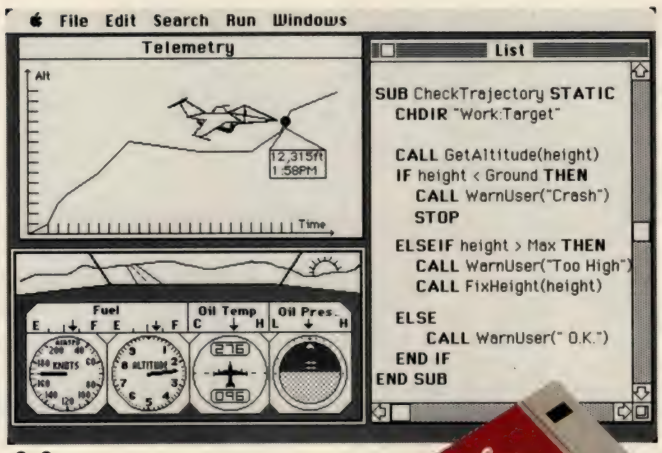

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M.U.G. WRESTLING

By Don Rittner

My home address is: Don Rittner, 1726 Lenox Rd., Schenectady, NY 12308. I will review everything that is sent to me. You can also get me online at CompuServe (ID 70057,1325), GEnie (DRITTNER), and the MECCA BBS (518-356-3140).

'WHAT DO I DO' DEPARTMENT!

Many beginning Mackers ask what a good system file looks like for word processing, graphics, or telecommunications. Below are three system files I suggest. Send me your suggestions for the best system file for beginners and I'll pass it along! Most of the DA's are Public Domain or Shareware. A couple are inexpensive commercial ones. I wouldn't try these on a 128K.

System File for Word Processing:

1. *Acta* (Symmetry Corp., written by David Dunham). This is a great commercial outliner in DA form. Not expensive, and is necessary if you prepare outlines before you compose.

2. *Artisto* (Tom Taylor). This poor man's *Art Grabber* allows you to Cut and Paste graphics up to full page—a must.

3. *Calendar 1.4* (Mosaic Codes). This allows you to store notes for each day up to ten years from now!

4. *DeskZap* (Bruce Tomlin). This DA renames, deletes, and creates files, and does about everything else to a file.

5. *DiskInfo* (David Dunham). A great utility for finding, renaming, and deleting files, or mounting and unmounting volumes.

6. *Mac Lightning* (Target Software). Another commercial product but a fast and good spelling checker in DA Form.

7. *Mockwrite* (CE Software) or *Miniwriter 1.3* (David Dunham). These two are mini text editors, the latter being more powerful. Allows you to import text into *MacWrite, Word*, or a desktop publisher, or compose a quick note while writing!

8. *MW Word Counter* (Andrew E. Page), *Grep-WC* (Paul Dubois), or *MS Word Count 3.0* (Steven Martin). The first counts only *MacWrite* (& text) files while *Grep* also allows you to search for words, strings, etc. *MS Word Count* only counts *MS Word* and text docs.

9. *Other . . .* (Lofty Becker). This great DA allows you to open any DA not in the System file.

10. *Read MacWrite(?)* or*Reader* (Bob Perez) The first allows you to read a *MacWrite* file without quitting the application you're in, and/or makes a text file of it! *Reader* lets you read a text file, get its size and approximate upload time.

11. *Saviour* A must for those who forget to periodically save their creations (a power outage is also good cure for this!) *Saviour* does it for you automatically.

12. *Wrapper* (Randy Hootman). This nifty DA prints out a wraparound envelope on your *MacWrite/Word* letter or note with return and forwarding address.

13-15. Three of your choice but probably Apple's *Chooser, Alarm Clock, and Key Caps.*

System for Telecommunicating:

1. *BackDown* (Ron Risley). This acts as a downloader in the background and frees up your Mac. Supports MacBinary and CRC checking.

2. *TurboDownload* (Mainstay). A commercial downloader that improves downloading time up to 300%.

3. *DeskZap* (already described).

4. *MacWriteText* (Andrew E. Page). How many times were you ready to send a file and realized it wasn't saved as a text file? This DA will change it for you instantly.

5. *Autolog* (Steve Fine), *Autodial* (Scott Zimmerman), or *QDial* (Leo Laporte) all take the strain out of calling up the networks or BBS's.

6. *RLE Graphics.* When using *Red Ryder* software, this DA will allow you to view special RLE graphics used by CompuServe and many bulletin boards.

7. *Mockwrite* or *Miniwriter* (already explained).

8. *Mockterminal* (CE Software). A fairly simple communications program in DA Form.

9. *City Cruiser 1.0* (Tom Fernandez). If you use PC Pursuit, this handy DA lists all the cities served by it, their area codes, and PC Pursuit's customer service and online BBS numbers. Boston's area code is wrong, though—should be 617.

10. *GEnie Index.* A nice DA that gives you the page numbers of GEnie. Saves you time and money.

11. *Charger 1.1* (James Finnigan). DA that calculates the cost of your online time. Online price structure is adjustable so you can use it for any network or BBS.

12-15. Your choice!

System for Graphics:

1. *Artisto* (already described).

2-15. You tell me, okay? I'm not an artist!

While I'm talking about System files, here's another hint. Even though the above described system files are good for most applications, you still may need specialized system files. For example, you may want a system file with only large display fonts for posters, or just math and engineering fonts for the office. Here's what to do:

Create each of your specialized system files with the DA's and fonts you want and label them System 1, System 2, etc. In the Get Info box, list the DA's and fonts contained in each. Store them on a disk with a small Finder.

When needed, boot up with a RAM Disk. Insert your system Library disk in the external drive. Knock off the number (i.e., System 1, 2, etc.) of the one you want. Double-click the Finder on your system library disk. This makes it now the startup disk; dump the RAM disk System file, replace it with the one from the Library disk; double-click again on the RAM Finder, and presto. Go back to the Library disk and renumber the system file you used. It works!

BAD APPLES DEPARTMENT

Power board update. Those of you who have followed this column from the beginning know that I've repeatedly discussed the failure of the Mac's power board. Apple has finally admitted (*InfoWorld* 15 December 1986) that a 'number' of power boards have failed in older machines that have been upgraded to the 1 meg Mac Plus. Baloney! The power board problem goes back to the original 128K Mac. My power board went within the first three months (nearly three years ago). My user group (MECCA) had a 33% failure rate the first year and these were 128 and 512's!

Many of you have sent me copies of letters written to Apple as well as describing your own experiences with power board problems. Apple is blaming the dealers who apparently didn't follow Apple's upgrade procedure. Well, who's been paying for this—the dealers? Hell no, they've been making a small fortune—not to mention Apple's share of the pie! Apple had better come up with a way to compensate those users who have been 'shorted' by their dealer representatives, if that really is the case. I will continue to write about this until Apple makes a positive move. It's getting so bad that the November '86 issue of *The Active Window*, published by the Boston Computer Society (USA's largest user group), contains a bad power board survey form for its members!

Incidentally, many of you have told me that you Mac smoked and fizzled when the power board took off. According to the *InfoWorld* report, one Mac went up in flames! I haven't received any reports of people's homes catching on fire, but Apple should consider the consequences if it happens.

Meanwhile, those of you who operate 24-hour bulletin boards (BBS's) should consider not running it when no one is home. Also, place a smoke detector directly above the Mac, in case you're sleeping when the power board takes a powder.

One BBS Sysop's daughter called him at work, yelling that the Mac was smoking and belching. She didn't want to turn it off because there was a user on the line! Fortunately, Dad told her he would apologize to the user for the disconnection.

Seriously, consider these precautions, folks!

OUCH, MY ACHING NECK!

For the last month, my fingers in my right hand have gone numb. I keep twisting my head back and forth, a la David Letterman. My neck is killing me! I thought it was old age creeping in.

Not so! Dr. John Pollard, a chiropractor, gives a set of MACersizes to use in the November '86 issue of the *MACValley Voice*. Apparently, if you spend lots of time on your Mac, you place a lot of stress on your shoulders and back of the neck (tell me about it!). So. Every twenty minutes or so, get up and take a stretch.

That's what I get for trying to operate two Macs at the same time.

CLEAN THOSE DRIVES! My apartment is dusty. In fact, after a few days, you can see the layer of dust on my Mac's CRT and little fuzz balls in my disk drive. Having a fan on my Mac guarantees that dust will be sucked in. One of my Macs even started crashing every time I booted up and I figured it was the power board problem again. I remembered reading about dust affecting disk drives, so I decided to give it a try before bringing it in. Wow, what a difference.

Floppicene (TECH-SA-PORT, P.O. Box 5295, Pittsburgh, PA 15206 (412) 661-2629) uses a wet/dry approach to cleaning your Mac. The old way (still used by some manufacturers) is the dry, abrasive cleaning that can destroy your drive's head. With Floppicene, you insert a round, disposable disk into a reusable 3.5 disk. Spray half the cleaning disk with a cleaning solvent (supplied), pop it in the drive, let it whirl, and throw away the disposable disk. Simple! The wet side cleans and loosens dirt, the dry side does the buffing. My Mac doesn't crash anymore!

TECH-SA-PORT, the distributors of Floppicene, also distribute a Microclene kit for the CRT (anti-static cleaning wipes, housing cleaner, two different types of lint-free wipes), and one for the printer/keyboard (cleaning solvent, pre-saturated cleaning pads, lint-free wipes, and gadgets to get in between the keys, etc.). All kits are less than $35 and housed in sturdy book-like binders. Refills are available, and your purchase is guaranteed or your money back. I like that! So use your head and clean your heads.

MUG OF THE MONTH

MacValley Users Group (P.O. Box 4297, Burbank, CA 91503). After watching Johnny Carson for all these years, I feel like I know Burbank. That's where you will find Mac Valley MUG's 300 members, meeting at the Burbank High School every third Tuesday of the month. Membership is $20/yr. and includes the *Mac Valley Voice*, discounts, and PD software.

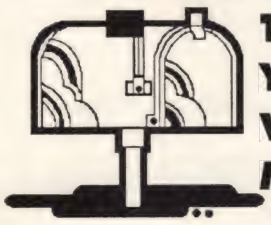
The *Mac Valley Voice*, an eight-page newsletter, is one of the most tastefully designed I've seen or read (Linda Spaulding is the art & production person). You find the usual reviews, tips, and software exchange, but I really like the Member of the Month column. Everyone gets their moment in the sun. I wonder if Johnny has a Mac?

BBS OF THE MONTH

PRIMETIME (Rockford, Illinois). Actually it's the *new* Primetime. Tom Fernandez first went online in December, 1985. Starting in January, 1987, Primetime began running on an 8 Mhz, Turbo PC-XT, using *Colossus (Collie)* software with a dedicated storage of 30 MB. It is the first Mac-oriented BBS of this design. It is versatile and powerful! With the message section, you can get threads like CompuServe, and 'carbon copies' like GEnie. The private mail section (NetMail) will allow Tom to join ECHO-MAC conferencing as soon as he gets his NET & Node numbers, and it runs itself. Tom tells it when to shut down, perform a backup, and relaunch—automatically!

You can have online games; file transfers are fast (lots of files), lots of bulletins, stats. There's an online tutorial that may be dumped to your printer to learn the ropes. Once Tom gets everything ironed out, Primetime will be one of the greatest Mac BBS's ever (it's already pretty fantastic)!

IF YOU USE DIRECT MAIL



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Primetime runs 24 hours at 1200/2400 baud. The number is 815-965-5606. Tom, besides being a family man, first got on GEnie when it started, and is the Mac Software librarian (co-Sysop) for the BBS Roundtable and Telecommunications Roundtable (you can find him everywhere else on GEnie also). Tom has worked with others (Ralph Yount and Dave Alpert) writing some great utilities for us Sysops. His definition of a Sysop is 'someone who gives all of their coin to the phone company, and all of their time to their users.' Ain't that the truth? Tom is willing to help any other Sysop who wants to convert a PC to a BBS for the Mac.

On television, Primetime is usually reserved for the best. This BBS is appropriately named!

PD OF THE MONTH

Font LibrarianHFS (Proper Software). This is the best font mover around. you can add a font to a font file, to an application like *MacWrite*, to system files, and you can look at the entire font map. It does more. Shareware for $20.

Version Reader 1.2 (John Holder). This nifty little program lets you see what version number (or whatever else is in there) you have without having to open the program. John doesn't want any money—it's free (send him a thanks, though!)

Camera (Craig Hickman). This is a great program if you are learning photography. It lets you see the relationship between f/stops, film speed, and shutter speeds—all by clicking on them and watching the resulting changes on a 'slide' or 'negative.' You can adjust the lighting as well. FREE. To work, it must reside on the Desktop, though—not in a folder.

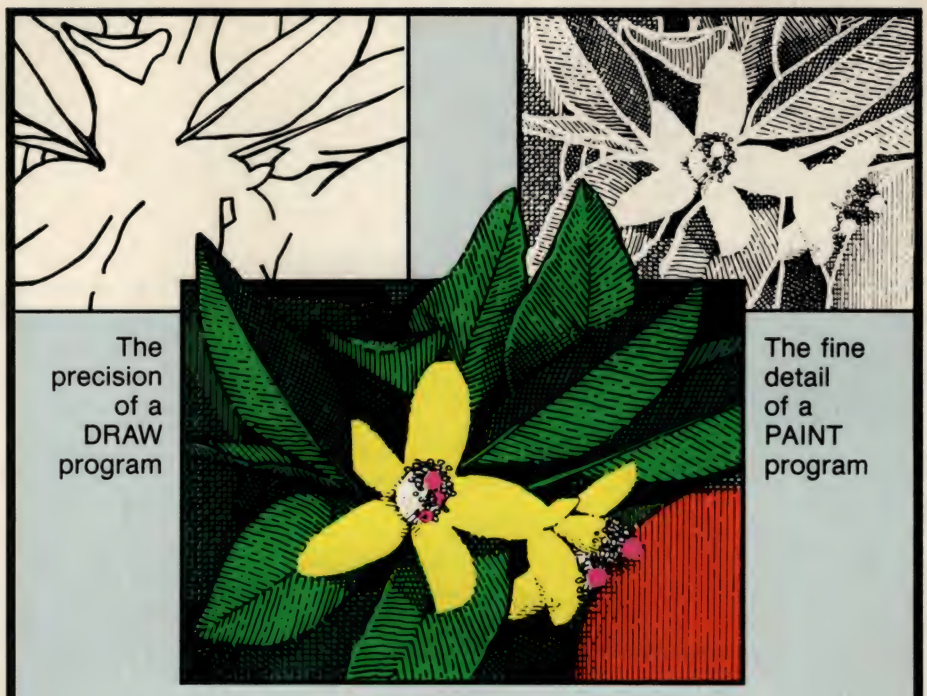
WAIT—THE STOVE'S COOKING!

WHAT'S HOT—FOR USERS

HOT

Computer Expressions (3700 Market St., Ste. 308, Philadelphia, PA 19104). How would you like your *MacPaint/FullPaint* art original, first page of your award-winning newsletter, company logo, or whatever—decorating coffee mugs, T-shirts, sweatshirts, or even on a puzzle? Well, now's your chance. Computer Expressions will take your art (you put it on their disk) and reproduce it exquisitely on the above items or on chocolate cards, mouse pads, umbrellas, sport bags, and even award plaques. The reproductions are beautiful. Fine lines are reproduced without a blur, and you have a choice of colors.

The best part is, you don't have to order hundreds of them. They're priced for small quantities—even as few as one. I know what I'm giving for Xmas presents this year!



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Bob LeVitus, MACazine, Jan '87

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Sharon Aker, MacUser, Feb '87

Suggested Retail Price: $99.00

System Requirements:
Macintosh 512K, Plus, XL (1 mb)

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NOT

Nevins Microsystem's answering machine. I called Nevins to talk to them about their new revision of *Turbocharger* the other day. What I got was a 4 or 5 minute recorded sales pitch that ended with "there is no one available to talk to you!"

this was followed by "If you have an 'Urgent message,' leave your name, etc., and the 'Urgent' message."

Listen folks, it's one thing to listen to someone's hype, but I don't think we should be held hostage and forced to listen and pay for it when we need a question answered! This is *not* a toll-free number.

My call wasn't returned either. Guess it wasn't 'urgent.'

HOT

Mac-In-Use (Softview, P.O. Box 3470, Camarillo, CA 93011). Just pop it in the system file. When you're done working with an application, a box pops up and asks you to jot a note about what you did and if it was for personal or business use. The file it creates gives the date, time started & stopped (total seconds), name of the application, your note, and personal/business tag. This really is helpful when you need to keep track of business use of your Mac (good for the IRS too!).

NOT

Errors in spelling checkers. Spelling checkers should not be substituted for good proofreading. Especially since some of them have words misspelled in their dictionaries. I won't name names, since so many spelling checkers have this same flaw, but updates would be appropriate to straighten out this problem.

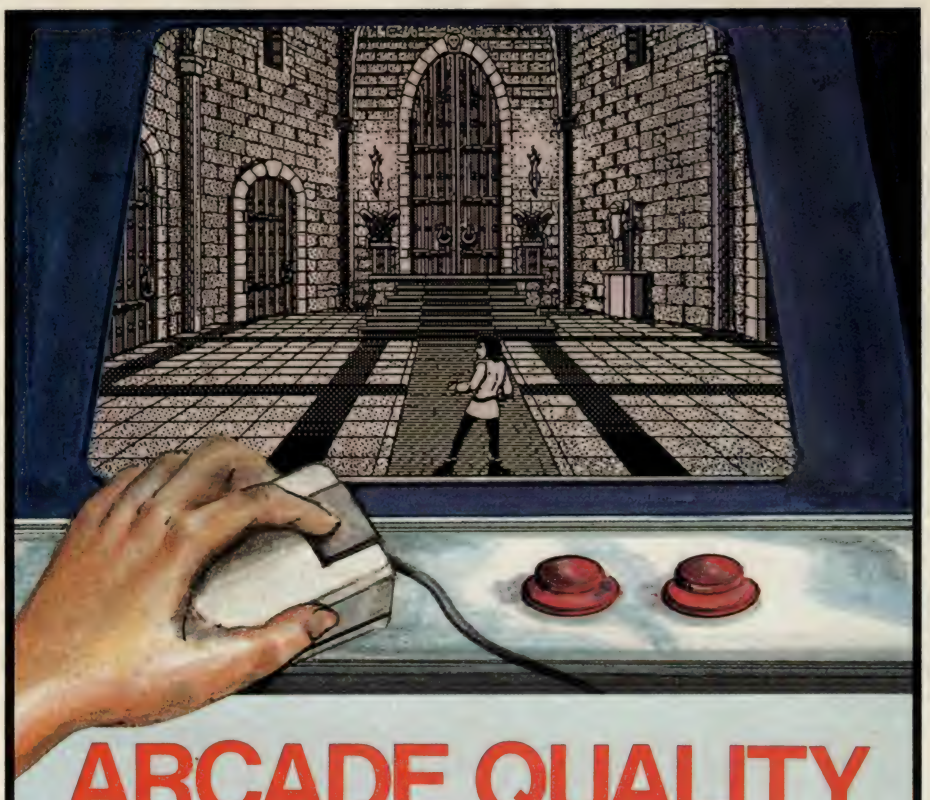
HOT

Quickstick (Kraft Systems, 450 W. California Ave., Vista, CA 92083 (619) 724-7146). If you play games on the Mac, you probably wish you had a joystick. Well, Kraft Systems manufactures one that replaces your mouse. It has two settings: a free floating (mouse-like), and spring centering (joystick) that is easy to use. It takes a while to get used to moving it around a la mouse, but you will notice immediately the pleasure of not accidentally rolling off your table or mousepad because it doesn't go anywhere—it just sits there taking up a 4X4 space. I played a mean game of *Racquetball* in the joystick mode. The 6 foot cord lets you lean back and play, or the ability to choose cursor speeds lets you draw precise lines pixels apart. The best of both worlds at your fingertips!

NOT

Apple dealers who leave you cold. Apple dealers who don't 'remember' you the day after you buy your Mac. Apple dealers who tell you it's possible to run Mac software on the GS. Apple dealers who sell you LISA modem cables for the Mac. Need I go on?

Hey, did you hear Steve Jobs is taking over Apple again??? April Fool!



ARCADE QUALITY
on your Mac

Enter the Dark Castle at your own risk. Watch out for trap doors, boulders and lightning bolts! Fight off rats and bats, knife-throwing guards, mutants, vultures, flying griffins, magic brooms, the relentless floating eye, dragons and the sadistic torturer! And throughout it all you'll hear the famous Silicon Beach RealSound™.

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Robert Forras, MacTimes, Nov-Dec '86

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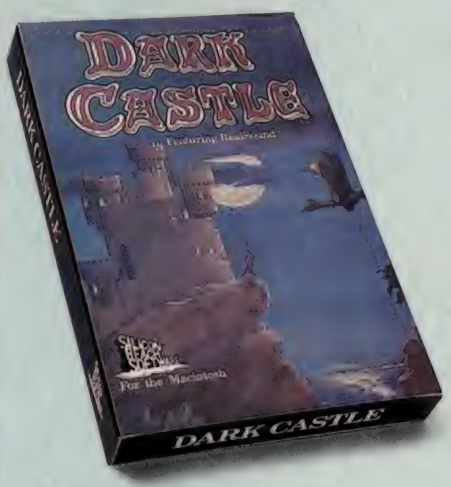
Linda Kaplan, MacUser, Feb '87

"This is the coolest Macintosh game I've ever seen."
Bob LeVitus, MACazine, Dec '86

"Dark Castle provides the highest quality graphics and sound of any Macintosh game available."
Ken Goehner, MacWorld, Mar '87



Suggested Retail Price: $49.95

System Requirements:
Macintosh 512K, Plus

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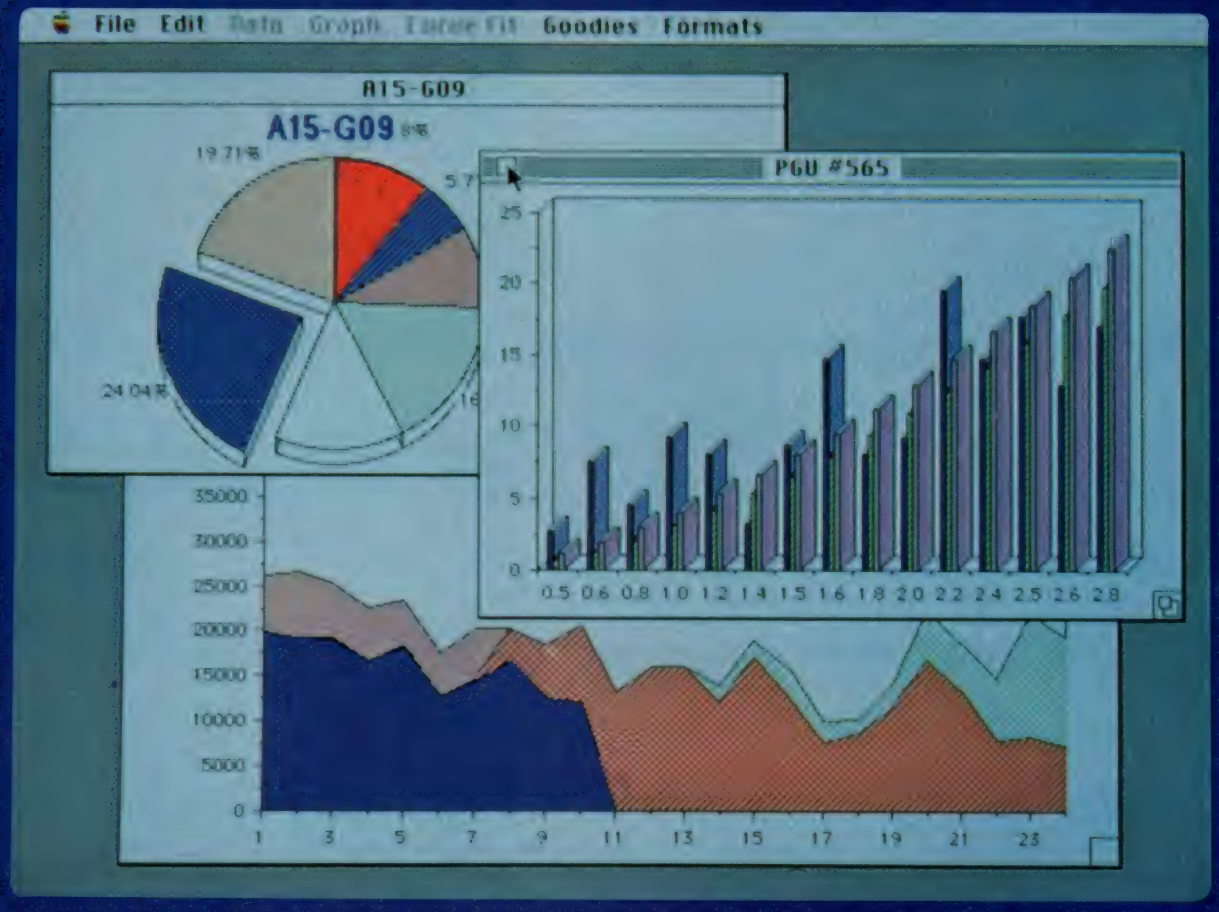
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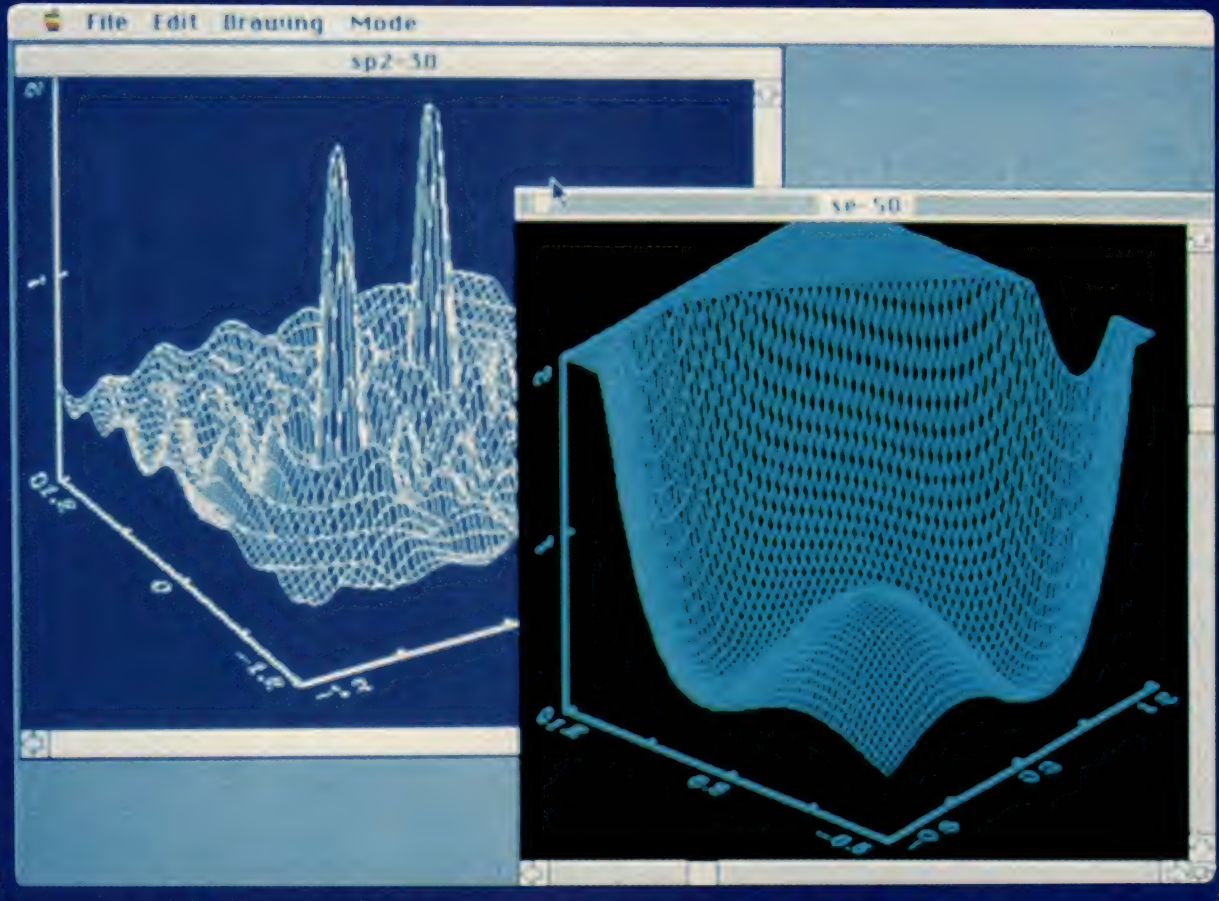
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MACINTOSH II AND MACINTOSH SE

By Howard Bornstein

1987 may be the year of the *real* Macintosh. Most people think that 1984 was the year of the Mac since it was introduced then. Others say 1986, when the Mac Plus was introduced. But with the introduction this year of two new versions of the Macintosh, the Mac finally becomes a real computer. Let's see why.

1984

The original Macintosh, astonishing as it was with its unique user interface and corresponding ease of use, simply did not have the horsepower to succeed as a practical business computer. One of the side effects of being easy to use made the Macintosh slow to use. The graphical interface made it easy to understand and interact with, but pushing all those bits around slowed the Macintosh down. Couple that with the slowness of the original Finder and the 400K floppy drives. Then add the limit of only 128K of memory. Finally, consider that, since the Macintosh's unique design made writing software much more time consuming and difficult, the amount of usable software was small and slow in coming.

1986

Even with these limitations, the Macintosh was gaining momentum because of its intuitive design. Apple also made an early attempt to improve poor performance by offering a 512K memory upgrade. Various manufacturers offered hard disks and memory upgrades. In 1986 Apple introduced the Mac Plus. This was the Macintosh that answered the critics' biggest complaints. It brought the Macintosh up to par in performance with competing computers such as the IBM AT, but without sacrificing the Mac's unique ease of use.

The Mac Plus came with 1 megabyte of usable memory, which could be expanded to 4 megabytes with plug-in modules. It supported the Hierarchical File System, also introduced that year, which allows structured organization of large amounts of data on high capacity hard disks. The disks attach to the Mac on an industry standard high-speed interface port.

These changes gave the Macintosh the power that it needed to survive in the 'real world.' But these features were thrown together, almost as a stop gap solution. This becomes more visible when we look at the solutions Apple has brought us this year with the Macintosh SE and the Macintosh II.

1987

Apple introduced two new models of the Macintosh computer this year. The Macintosh SE is the Macintosh Plus designed for expansion. The SE (which, by the way, stands for System Expansion) starts out with all the juice of a Mac Plus: Motorola 68000 processor, 1 megabyte of RAM, built-in 800K floppy drive, SCSI high-speed interface port, built-in AppleTalk network protocol, 512×342-pixel bitmapped display. The most noticeable change is the addition of an expansion slot.

THE NOT-SO-IGNORANT SLOT

This slot is built around a 96 pin internal connector that lets Apple or other developers easily attach special hardware to the Macintosh. The connector fully supports all of the 68000 bus signals, so that add-on cards can have full access to the CPU. This slot can be used for a floating point accelerator, or it can be used for a special video board to give more graphic resolution or for displaying color. Large screen displays may be plugged in. Special communications devices that will let the Macintosh talk to mainframe computers or high-speed networks will plug in. You can also plug in a coprocessor like the 68020, which will quadruple the speed of the Macintosh.

The expansion slot opens the way for the Macintosh to easily talk to the rest of the world. The key word is *easily*. Third-party manufacturers produced products that plugged into the Mac Plus: hard drives, memory upgrades, full page displays. But each one had to overcome a plethora of hardware design constraints, and often these devices were incompatible with each other.

The SE provides a uniform expansion path for the Macintosh by giving developers a standard model for expansion. It also allows Macintosh owners to expand their Macs without violating their Apple warranty, or, more importantly, their AppleCare protection. The SE even comes with a special knockout plastic slot in the case to accommodate cables. No more drilling holes in the case or running cables through the security lock slot.

IS ONE SLOT ENOUGH?

But why only one slot? The answer to this question is the same as the answer to the question: 'How many slots are enough?' The Macintosh II, as we will soon see, comes with six slots and it will probably still be too small for some people. One slot provides the model for standard expansion. The rest will come of itself. There will not only be many different types of expansion boards, but there will be multi-function boards which will combine many boards into one. Boards will daisy-chain the connectors so that several boards may be added inside. Someone will most likely build an expansion chassis that sits outside the Mac and allows you to add four or six more boards to the Macintosh. Once the model is there, the world comes up with solutions to its many varied problems. The SE expansion port provides this model.

RIDING THE APPLE DESKTOP BUS

The SE introduces a more uniform method of expansion for input devices. This comes via the Apple Desktop Bus (ADB). This is a true bus for daisy-chaining up to 16 input devices, such as the keyboard and the mouse, as well as graphics tablets and other input devices. Again, this provides a standard model for expansion in an area where manufacturers each came up with their own incompatible solutions.

The Macintosh SE comes in two factory configurations. One has two internal 3-1/2 inch floppy disk drives and the other has one internal 3-1/2 inch floppy drive and an internal 20 megabyte SCSI hard disk drive. Both of these options are improvements over the Mac Plus. Two built-in floppy drives make the SE sleek and elegant and saves toting around a spare drive, or clearing space for one on your desk. If you don't need to have a large database of information on-line, the floppy-based Mac SE may be all the computer you'll need. Incidentally, there is a floppy disk drive port on the back of the Mac SE, just as there is on the Mac Plus. And, yes, you can plug a third floppy disk drive into it if you want to have three at a time.

The hard disk option gives you a full-powered desktop computer in a transportable (i.e., luggable) box. The convenience of having all your data with you is significant for many types of business, and Apple finally endorses internal hard disk drives for the Mac by providing one of their own in the SE.

...AND MAC ON THE KEYBOARDS

Apple is offering two different keyboards for the Mac SE as well as the Macintosh II. The standard 81-key Apple keyboard, which includes a numeric keyboard, looks similar to the Mac Plus keyboard, except it uses the Apple Desktop Bus. In addition, Apple offers the Apple Extended Keyboard, a 105-key special purpose keyboard, which can be used with different operating systems and terminal emulation packages. Its cursor keys are laid out in the more usable T-formation. It, too, has a numeric keypad and 15 function keys. The function keys can be defined with a desk accessory to execute menu commands or to type text strings. This keyboard also uses the ADB and can daisy-chain other input devices.

WATTS UP

The 60 watt power supplies in the Mac 512K and the Mac Plus have been notorious for early burnouts. They seem to be barely powerful enough to support the power needs of the Mac. The Mac SE power supply, on the other hand, is rated at a juicy 100 watts and should be able to handle the power needs of any add-on boards with ease. In addition, the SE power supply is a universal type. It uses either 120 or 240 volts from 47 to 63 hertz. This means that you can travel around the world with your Macintosh and not have to bring along a bulky power supply converter.

DEPARTMENT OF THE INTERIOR

Other changes that were made to the Mac SE are the redesign of virtually all of the components inside. About the only thing that's the same as the Mac Plus is the picture tube. Every board was redesigned to make it cheaper, to correct bugs in the design, and to make more space available for the add-on boards and the hard disk drive. For example, 19 chips from the original Mac Plus were combined into a special high-density gate array package in the Mac SE. And a new 10 year lithium battery is built into each machine.

The system ROM has been doubled from 128K to 256K (although only about 160K is currently being used). The increase includes support for ADB, a new SCSI manager, and enhanced and speeded-up toolbox routines. The Mac SE contains new video circuitry that frees up the CPU from having to do the video refresh. The speeded-up toolbox routines, combined with the separate video circuitry, gives the Mac SE an overall speed increase of between 15 and 20 percent. In addition, the new SCSI manager doubles the transfer rate to and from the disk, as compared to the Mac Plus.

PUTTING YOU ON 'SE' STREET

You can see that Apple took a hard look at the Macintosh Plus, liked what they saw, and decided to rebuild it for heavy-duty work into the 1990's. While many of the changes are not as dazzling as the hackers-at-heart may have hoped for, Apple has made a substantial improvement in the overall expandibility of the product. These improvements will give the Mac SE a long and productive life. Apple has positioned the Macintosh SE as the mainstream computer in the Macintosh line. It is the model expected to bring in the bucks in the coming years. The Macintosh 512K and the Mac Plus will be positioned as entry level machines, with the Mac SE as the main player (contrary to rumors, Apple will continue to manufacture the Mac 512K as long as demand remains for it). And for those who want the flash and glitter, as well as power, Apple has a new high-end machine—the Macintosh II.

THE MACINTOSH II

The Macintosh II is a major departure for Apple in the Macintosh line. Until now, even with the Macintosh SE, all the Macintosh computers were relatively closed boxes with all the important devices (screen, keyboard, video) built in. The Macintosh II departs from this in two important ways.

First, it is a completely open architecture. It has six general purpose slots that are designed for expandability. It is *assumed* that users are going to expand the Macintosh II, while the Mac SE, in contrast, provides limited, optional expansion. It is also much easier to get inside the Mac II than the other Macintoshes.

Secondly, the Macintosh II comes as a series of components. The 'computer' itself is the processor box, known as the System Unit. Then you mix and match the other items as you need them. There are two keyboards and two monitors available from Apple. Third-party manufacturers will undoubtedly offer more. You may choose what boards you want to plug inside.

But let's examine the real power of the Macintosh II and see what sets it apart from other Macintoshes and other computers. It starts off with all the power of the Macintosh SE. Then Apple adds some important changes. The most important item, besides the slots, is that the Macintosh II comes with a 68020 processor. The 68020 is the big brother to the 68000 used in the Mac Plus and the Mac SE. The first difference is that the 68020 is twice as fast. It runs at 16 MHz instead of 8 MHz. This doubles performance. In addition, it has full 32-bit wide data paths. This means that data moves in and out of the computer in chunks of 32 bits at a time. The 68000 only moves data in chunks of 16 bits at a time. This larger data path doubles performance, for a total performance increase of about four times the 68000 chip.

Besides the power of the 68020, each Macintosh II has the 68881 floating point co-processor built in. This co-processor performs IEEE-standard floating-point operations. The Mac II ROM automatically switches to the 68881 whenever floating point computations are needed (if they are called by the Standard Apple Numerics Environment (SANE) protocols). The 68881 chip will yield performance improvements of 30 to 40 times over software routines when used in this manner. If an application writes directly to the chip, bypassing SANE, it can show performance improvements of up to 200 times!

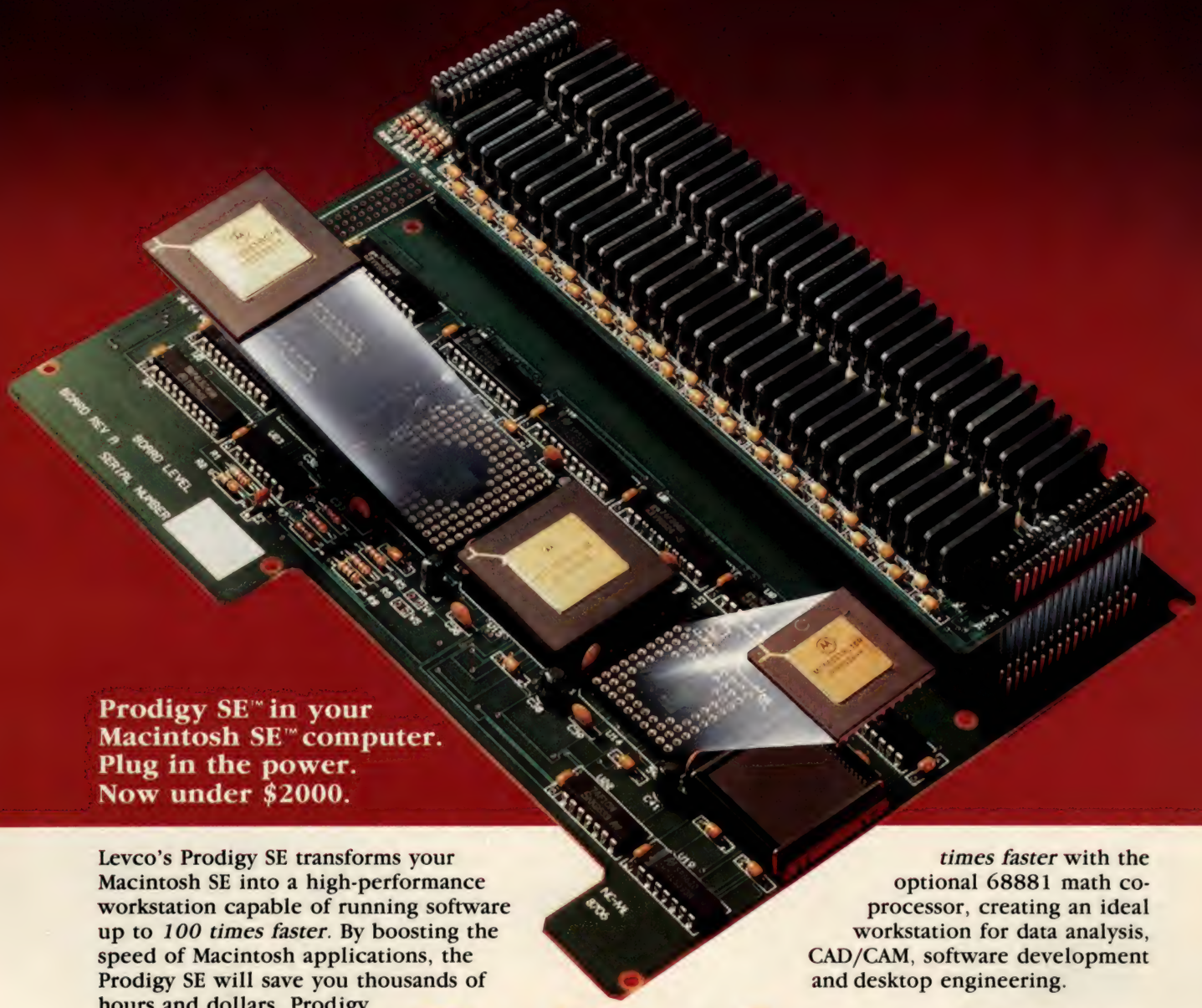
WHAT'S NUBUS?

Apple has gone to a high-speed, 32-bit industry standard bus, called 'NuBus,' for the Macintosh II. The bus is the highway where information and commands travel within the computer. NuBus is the equivalent of a modern multi-lane throughway—thirty-two lanes and all of them high speed. In fact, NuBus can transfer 10 megabytes per second. Imagine being able to transfer all the information on a 40 megabyte disk in only four seconds. Of course, other things would slow down such a transfer, but the bottleneck won't be NuBus.

NuBus boards have special identifiers called configuration ROMs that allow the Macintosh II to configure itself automatically upon startup. It knows which board is in which slot. This means that you won't have to ever worry about setting DIP or thumbwheel switches. (NuBus boards are not compatible with the boards that plug into the Macintosh SE's expansion slot.)

CAPTAIN VIDEO

With the other Macintoshes, you never have to worry about the video, because the screen and graphics circuitry are all built in. With the Macintosh II, however, everything is modular, so Apple provides a special video card that plugs into a NuBus slot. Apple's video card produces video output in both black & white and color. Color is further sup-



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ported by a set of enhanced QuickDraw graphics routines in the 256K ROM called 'Color QuickDraw.' The card comes standard with 256 kilobytes of video RAM. This lets you have 16 shades of gray for monochrome monitors and 16 different colors from a palette of 16.8 million on a color mointor. You can add an expansion kit to double the amount of video RAM to get 256 shades of gray or 256 color simultaneosly.

Apple offers two different monitors: a 12-inch monochrome monitor and a 13-inch RGB color monitor. The color monitor uses Trinitron technology from Sony Corp. and the images are near-photographic quality. You will be stunned when you see the quality of the image displayed on one of these monitors. Both the monochrome and the color monitors display 640 pixels horizontally and 480 pixels vertically.

While these screens are noticeably larger than the nine inch displays on the Mac Plus and Mac SE, they still do not display a full page of text. Apple will *not* offer a full page display monitor, leaving it to outside manufacturers to do so.

CELEBRATING MASS STORAGE

There are several different disk drive configurations for the Macintosh II. You can have either one or two internal 3.5 inch 800K floppies. Or you can substitute a hard disk drive for one of the floppy drives. The hard disk drive can be either 20, 40, or 80 megabytes and connects to the SCSI interface. Apple also makes them as external drives. One of the advantages of these drives is that the electronics comes as part of the drive and it works on the SCSI port, so you don't have to waste a *NuBus* slot to set up your disk drive.

THE REST OF THE GOODIES

The Macintosh II motherboard takes single in-line memory modules (SIMMs), just like the Mac Plus. But you can plug in up to eight of these modules in the Macintosh II. With one megabyte chips, you can have up to eight megabytes of RAM. And, if you can fit it on a *NuBus* card, the Macintosh II will let you add a total of up to 4 gigabytes of RAM. This should satisfy everyone but COBOL programmers.

There is a slot for a 68851 page memory management unit (PMMU) that provides virtual memory management functions for multitasking environments such as Unix. Apple will offer Unix System 5 with Berkeley 4.2 extensions. This will be the only multi-tasking environment offered by Apple this year. Most users will likely use Andy Hertzfeld's *Servant* if they want multiple applications to work together.

The sound chip has been boosted for the Macintosh II. Not only is it compatible with the Macintosh Plus and SE's four voice sound chip, but it offers stereo capability and sampling at 44.1 KHz. This means you can play back quite realistic digitized sound in stereo. The sound chip acts as a separate processor and will handle most of the sound generation tasks while freeing the 68020 processor to perform other tasks.

DEAR MS. DOS

Apple has talked about an alliance with IBM, but not a surrender. This alliance is shown in the design of the Macintosh II. Apple has no intention of making an MS-DOS machine *per se*, but the Macintosh II (as well as the Macintosh SE) can interact with the MS-DOS world in three different ways.

First, files can be interchanged between Macintoshes and MS-DOS computers with AppleTalk, 3COM-style networks, or modems. Soon-to-be-available software packages called 'Passports' will translate file formats. For example, there will be a passport which allows *Wordstar* files to be translated into *MacWrite* viles and vice versa.

Apple also now makes a 5.25 inch floppy disk drive that will plug into either new Macintosh. This 360 kilobyte drive can let you directly read and write floppies that you use in an IBM PC. For software that will directly read MS-DOS files (like *Excel*, which will read *Lotus 123* files) you merely carry a floppy from one machine to the other.

Finally, several third-party manufacturers make an Intel 8086 or 80286 coprocessor board. This, along with the appropriate software, will let you run MS-DOS applications directly on the Macintosh. You can run MS-DOS within a special window, and still have access to your desk accesories and the standard edit menu.

If you desire an IBM AT clone, these are not the machines for you. But if you need to interact with the MS-DOS world, both new Macs provide several ways to do it.

ON TARGET

There is no doubt that Apple is a key player in the personal computer market. The Macintosh is the fastest selling personal computer today, with over a million units in the field. Given a market of this size, it is easy to see why Apple designed the two Macs the way they did.

Expandability is crucial if Apple is to have a family of general purpose workstations. The Macintosh SE will be Apple's mainstay computer, and we'll see it enter into every facet of business. Its expandability insures that it and its successors will have a long and fruitful life. Mac Pluses will become starter computers. We'll probably give them to our kids.

The more powerful workstation market will be met by the Macintosh II and its successors. These can handle high-powered engineering tasks such as 3D modeling and simulation. Although stating otherwise, Apple will be placed nose to nose with other high-end workstation manufacturers, such as Sun Microsystems and Apollo. Apple's enormous volume in manufacturing is bound to bring prices down so that they have a strong price advantage over their competitors. Not only will the Macintosh II support Unix like the Sun Workstation, but it also has the entire Macintosh software library at its disposal.

1987 should be thought of as the Year of Expansion, not only for the Macintosh, but for Apple Computer also. And we, the users, will only benefit by the rush of new energy into this market. Prices will drop and options will abound. There will be more new products offered by Apple and a slew of other manufacturers this year. Stay tuned. We'll cover them here in *THE MACazine*.

[Suggested retail prices had not been set at press time. Look for the SE to sell at around $2795, while the Macintosh II will probably start at just over $3500 for the CPU—Ed.]

Apple announced a number of other products to accompany the new Macintoshes. A complete list appears below. Many should be in the stores before you read this. Check your local Apple dealer for availability.

NEW APPLE PRODUCTS

CPU's
Macintosh SE
Macintosh II
Macintosh SE HD 20 System
Macintosh II HD 20 System

MONITORS AND VIDEO CARDS
Apple High Resolution 12" Monochrome Monitor
AppleColor High Resolution 13" RGB Monitor
1/4 bit video card
8 bit video card

STORAGE
Macintosh Internal 20SC Hard Disk
Macintosh Internal 40SC Hard Disk
Macintosh Internal 80SC Hard Disk
Apple Hard Disk 40SC
Apple Hard Disk 80SC
Apple Tape Backup 40SC

COMPATIBILITY PRODUCTS
5.25" Controller Card for Macintosh SE
5.25" Controller Card for Macintosh II
Apple 5.25" MFM Drive (360Kb)

SOFTWARE PRODUCTS
AppleShare (Suggested Retail Price: $799.00)
LaserShare (Suggested Retail Price: $299.00)
DCA Filter (Suggested Retail Price: No Charge)
AppleLine 3270 File Transfer Software (Suggested Retail Price: $299.00)

MISC.
AppleTalk PC Card (Suggested Retail Price: $399.00)
Apple keyboard
Apple extended keyboard
PBBU Chip
1MB RAM expansion for Macintosh II
2MB RAM expansion kit
Universal monitor stand
AppleLANE

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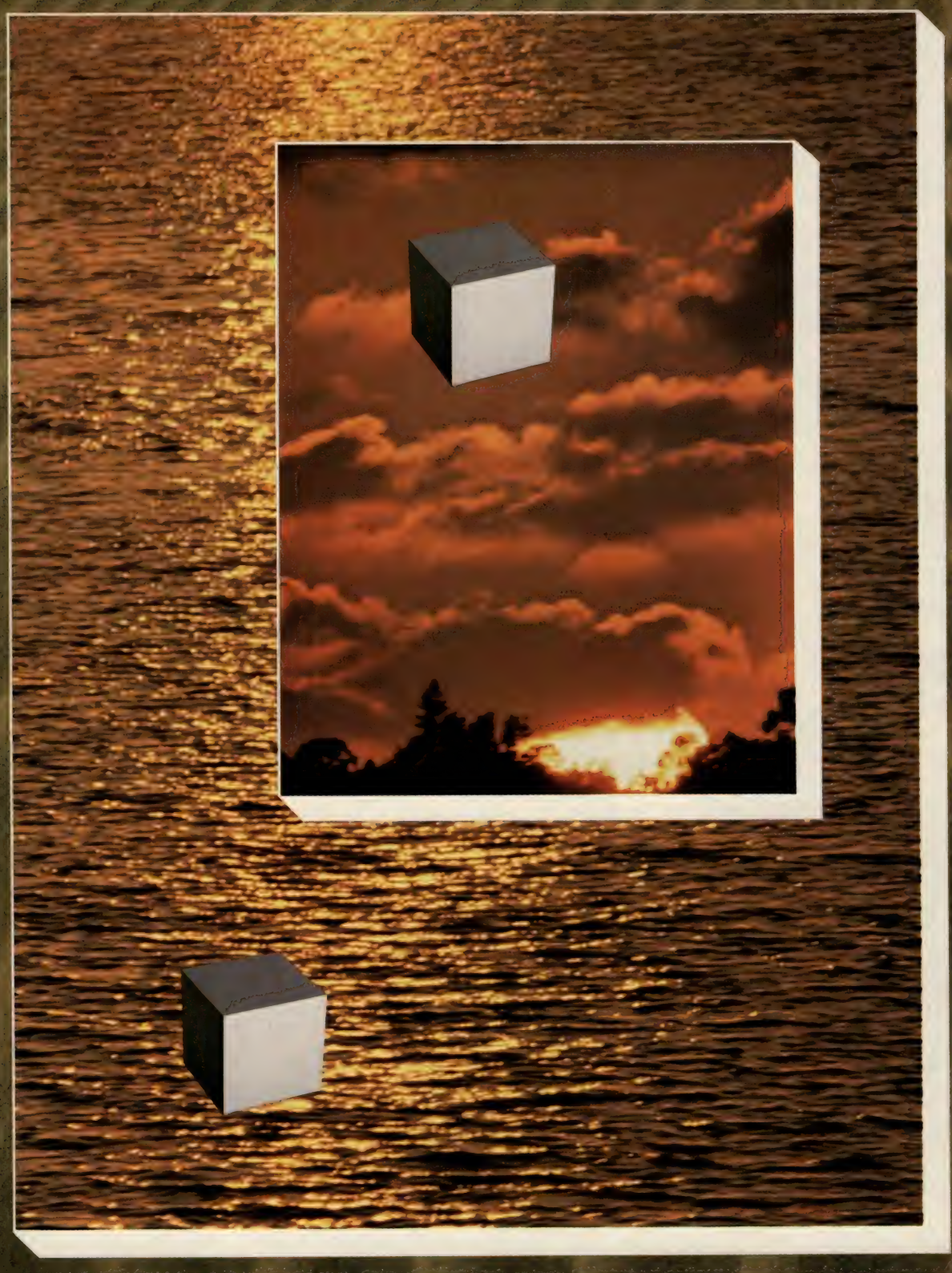


Artwork by Michael Gosney/Ed Roxburgh; Photography by Craig McClain

THE MACAZINE LOOKS AT RELATIONAL DATABASES

By Jonathan Lawton

Relational databases are all the rage these days. If you've read the reviews and scanned through the ads touting the great things you can do with a relational database, chances are you've started to wonder what the hubbub is all about.

Let's get past the first question: what *is* a relational database? Quite simply, it's a database that allows you to interchange and cross reference information between two different types of records. For example, a relational database should allow you to compare the information in a group of invoices to the information in an inventory. That's all.

This brings us to the next question. Do *you* need a relational database? Probably not. Most people do not need relational databases. If you merely want to keep track of a mailing list, you don't require a relational database. If you want to keep a simple inventory of something, you don't need a relational database. However, if you want to print out a mailing list of people who ordered products from your inventory, you will need a relational database.

If you decide you need a relational database, you should be careful about the application you choose. Why? There are two major reasons.

First, once you make a decision about your database application, you're going to have to spend lots of time with it. If you need a relational database, you've probably got a big job to do, which means not only will it take you a long time to enter the information, but it will also take you a long time to design and set up the database as well as accompanying forms and reports. Unlike a word processor or a graphics application, where it's relatively easy to switch from one software package to another, making a wrong choice in your database will cost you lots of lost time and effort.

The second reason you should be careful about your database choice is that there isn't a single outstanding database application available for the Mac. Sad but true. When you need a spreadsheet, everyone agrees that *Excel* is the one to have (if you can afford it). If you require a graphics program, *FullPaint* is the hot purchase of the moment. Arguments rage over the best word processor, *WriteNow* or *Microsoft Word*, but chances are you'll be happy if you get either one. Unfortunately, any relational database choice for the Mac boils down to a question of the lesser of many evils. *All* of the major relational database applications have major flaws or limitations. This means that you need to be wary when choosing one for your particular job.

To help you in making your choice, this issue of *MACazine* features in-depth articles on the three major relational databases currently available for the Mac: *Omnis 3*, *Reflex*, and *Helix*. Just to cover all the bases, our Editor-in-Chief, Bob LeVitus—the Perry White of the Mac World—asked me to write a sidebar for each piece, playing the devil's advocate. "Be tough, but fair," were his parting words. "Aye aye, Chief."

A USER'S IMPRESSIONS

REFLEX FOR THE MAC

By Bill Davies

Borland International's *Reflex* for the Mac is billed as a database program for 'information management and analysis.' This jargon is intended to differentiate *Reflex* from other garden variety relational databases in the crowded Mac database field. A brief review of *Reflex's* performance in a business setting should help you to find out whether *Reflex* really is the Mac database for you.

I work in a law office which handles cases for people charged with crimes. I do not understand traditional (IBM-style) spreadsheet formulas or search syntax, nor do I know how to program in *dBase*. I wanted a program that would allow me to do in-depth analysis without a great deal of programming.

I configured *Reflex* to keep track of all of the clients and cases that come through our door. The system keeps track of where the case originated, what the charges are, and which attorney is assigned to the case. At the end of the month, I use *Reflex* to perform summary analyses. My *Reflex* database contains about 2,196 records; my six datafiles take up 900K and my report templates an additional 400K. At any one time there are about 1,200 pending cases. However, since I keep the closed cases in the database, the total number of records just keeps growing. I have probably experienced just about every aspect and flaw of the program.

CREATING A DATABASE AND ENTERING DATA

Reflex makes it fairly easy to design a database. You create datafiles and link them together with lines. The program does not create, nor does it require, a separate index file. Your design work is done in the DataBase Overview window (Figure 1). It is here that you define your field types (i.e., numeric, text, date, integer, logical, sequence), and whether the relational joins are one-to-one or one-to-many. Each datafile must have one key field, which appears underlined in the DataBase Overview. The program will not support calculated fields in your data entry form, although you can per-

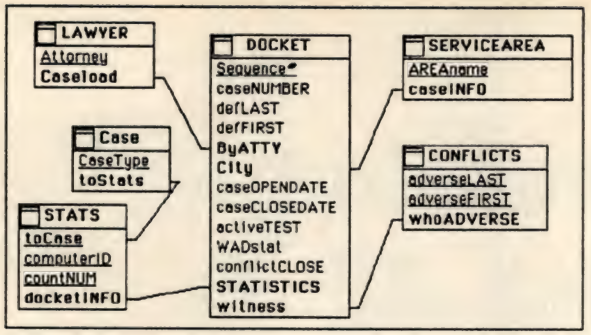


Figure 1

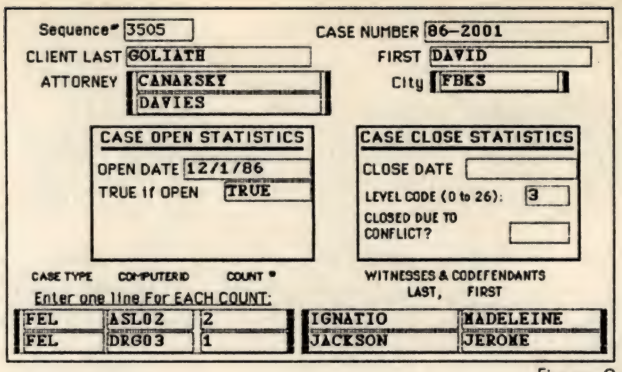


Figure 2

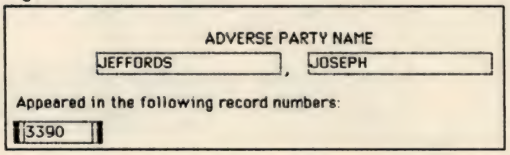
form arithmetic functions on your data and use calculated fields in reports.

Once you have designed your database parameters, double-clicking on any of your datafile icons brings up the data entry form for that file. The form defaults to a vertical row of labels and fields, but by switching to the Form Design window you can drag the fields around, change the labels, and use whatever fonts or graphic elements you desire. The program will accept graphic elements either from a paint-type program or from a draw-type program.

One worthwhile feature of *Reflex* is how the data entry screen handles a 'one-to-many' relational join. In Figure 2, the fields for 'Attorney,' 'Witnesses,' and 'Case Type' will grow downwards as many times as the user hits the return key. If there are ten attorneys assigned to one client, you would hit the return key after typing each name and the box would grow. When all the attorney names were entered, a press on the tab key would send you to the next field for 'City.' If you were to look at the data entry records by attorney name (the LAWYER file from the database overview) you would see that Record No. 3505 (Figure 2) appears credited both to attorneys Canarsky and Davies.

When entering data in linked fields, *Reflex* checks the linked files to verify your data entry. The fields in Figure 2 bordered by vertical dotted grey bars are really 'windows' into linked datafiles. Key field(s) from the linked files show up as grey-bordered data entry fields in the corresponding linked file at the other end of the link. For example, the key field in the datafile LAWYER is 'Attorney' becauase it is underlined. This links to the DOCKET file in the slot occupied by the boldface file ByATTY. The data entry field pertaining to the name of the attorney is really the key field from the LAWYER file; thus, you are entering your data directly through this porthole into the LAWYER file. Likewise, the recipient file would show the key field for the linked DOCKET record; in this case, the only key field for the DOCKET file is the record number. In Figure 3, an entry from the CONFLICTS file shows the key field ('Sequence#') from the DOCKET record to which it is linked. If you click on '3390' and choose 'Show Linked Record' from the menu, *Reflex* will call up to the screen the data entry form from the DOCKET file which corresponds to record number 3390.

Figure 3



In the LAWYER datafile there is a database record for 'Canarsky' and another record for 'Davies.' If you spelled 'Davies' as 'Davis,' *Reflex* would recognize that the LAWYER datafile did not contain an entry under that spelling and a dialog box would prompt you to either add the new attorney name or cancel. This is useful if you are using account numbers or text abbreviations to categorize your data. If you type an account number that was not already in your system, the dialog box serves to warn you that you have probably made a typographical error, or else allows you to add the new information to the linked file.

SEARCHING A DATABASE

Searching is divided into two subcategories: across a single datafile and across many linked datafiles. *Reflex* can search across a single data file interactively, i.e., there is a built-in 'Search On...' utility that allows you to build a search query using logical operators such as AND, OR, GREATER THAN, STARTS, and INCLUDES. Once you learn the search syntax, you can click in the formula bar and type the search formula from the keyboard directly.

One critical piece of information is that this type of search *cannot* be done across multiple files. The only fields that are searchable are those that are *not* 'windows' into linked datafiles. In the case of Figure 2, the active datafile is DOCKET and the boldfaced fields in Figure 1 are links, not 'true' fields. Therefore, while using this entry screen, the built-in 'Search On...' feature will *not* allow searches for attorney name, city, case type, or witness name, because those fields in reality exist as the 'Attorney' field in the LAWYER file, the 'Areaname' field in the SERVICEAREA file, and the AdverseLast and AdverseFirst fields from the CONFLICTS file (see Figure 1). This is where the program gets tricky, because you can see your linked data through these windows, but the built-in search function will only see 'true' fields from the active datafile window. If you can follow this logic, you may enjoy using *Reflex*!

REPORTS WHICH DISPLAY DATA FROM A SINGLE DATAFILE

Reflex will automatically create a table-style report from a single datafile. The program prompts the user to select which fields to search on and which logical operators to use. When all choices are entered, you tell the program to proceed and it compiles a report. Once the report is printed to the screen, you cannot edit the data shown in the report. If you notice a misspelling in someone's name, you must use the Window menu to jump back to the data entry screen, search for that person's name, and fix the misspelling. In order to show this change in the underlying data you must recalculate the report. Data meeting your search criteria can be exported as text or in several other formats. I have not found a way to simply save a report to disk.

REPORTS WHICH COMBINE & DISPLAY DATA FROM MULTIPLE LINKED FILES

The only way to join, combine, and analyze your data from linked datafiles is to design a free form report. These reports can be simple or elaborate. In order to allow the program to list the applicable data, the user designs boxes called 'repeating collections' which will repeat as many times as necessary to show the data which meets the report criteria. You can nest repeating collections within one another.

Thus, in Figure 4, the outer repeating collection searches through the datafile CONFLICTS and lists every name in that file. An inner repeating collection tells the program to list the case or cases in which each CONFLICT entry has been involved. The report in Figure 4 starts at the CONFLICT datafile, links to the DOCKET datafile, and in the final column, links again over to the ATTORNEY file. This is all done through a series of nested repeating collections and formulas telling *Reflex* how to follow the links to the other files. Such a formula might look something like Figure 5.

From my perspective as a database novice, it is neither simple nor straightforward to learn the *Reflex* formula syntax/grammar involving period commands, brackets, and brackets within brackets. If you type the wrong syntax,

IGNATIO, MADELEINE — Was a witness in the following cases:

Case Num	APDA Client Name	Open Date	Record Num.	Level	Attorney
86-2001	GOLIATH, DAVID	12/1/86	3505	3	CANARSKY DAVIES

ISKRA, MICHAEL — Was a witness in the following cases:

Case Num	APDA Client Name	Open Date	Record Num.	Level	Attorney
86-2800	FLODIN, ROGER	10/2/86	2852	B	CANARSKY

Figure 6

```
case WHERE EXISTS(tostats.docketinfo WHERE city.areaname
= thisarea)
```

Figure 7

ALASKA PUBLIC DEFENDER AGENCY
FAIRBANKS, ALASKA
CASELOAD STATISTICAL COUNTS FOR THE PERIOD:

November 1, 1986 to November 30, 1986

CITY/REGION

CASE TYPE	NUMBER OF CASES AT BEGINNING OF MONTH	CASES OPENED THIS MONTH	CASES CLOSED THIS MONTH	CONFLICT CLOSURES THIS MONTH	NET CASES PENDING ON LAST DAY OF THIS MONTH

Figure 8

```
COUNT(caseinfo WHERE (CASEOPENDATE < STARTdate AND
WADstat > 0) OR (CASEOPENDATE < STARTdate AND
CASECLOSEDATE >= STARTdate AND CASECLOSEDATE <=
ENDdate AND WADstat = 0 AND activeTEST = FALSE) AND
EXISTS(Statistics WHERE toCase.casetype = thiscase))
```

NUMBER OF CASES AT BEGINNING OF MONTH	CASES OPENED THIS MONTH	CASES CLOSED THIS MONTH	CONFLICT CLOSURES THIS MONTH	NET PEND LAST THIS

Figure 9

Reflex will not accept the formula. If, like me, you can figure out where to put the brackets but do not understand the actual logic (grammar) of the programming statements, *Reflex* will try to follow your instructions but will then either show the wrong data or an Error Code in the final report. This is not what I call instant feedback and it involves much trial and error. Sometimes you wait up to an hour for a poorly designed report to calculate. The program merely gives you an error message when it finally gives up after spending an hour trying to understand your formula! There is no feature that will write these multi-file search formulas for the novice.

REPORTS WHICH ANALYZE MULTIPLE DATAFILES BUT DO NOT SHOW ANY RAW DATA

You can go even further with *Reflex* and have it create a summary report that analyzes information without showing you the actual data. Once again, you use repeating collections, except that you now use calculated fields instead of actual data fields. The report in Figure 6 begins with a sort by city name. Thereafter, the report goes through all the data, finds out the case type of each crime that has occurred in that city, and then uses a complex formula to determine if the data meets the criteria for being opened or closed within the start and stop dates for the report. This makes for a nice report because I can use the template over and over again and need merely to type in the start and stop dates in question at the top of the form. Except for showing the city name and case types, this report is completely analytical and shows only totals and differences. Of note, these complicated reports will not run unless the supporting datafile is shown in the DataBase Overview window. The supporting datafile need not be open, but its image needs to be visible.

In order to make a multi-file report work, you have to attach formulas to both your repeating collections and to your calculated fields. Select a repeating collection by clicking on it to activate the formula bar, which is where you type in the directions for following the links through the datafiles (see Figure 5). Select a calculated field the same way to activate the formula bar, where you can type as much or as little formula as your usage requires (Figure 7). You can leave your fields named F1, F2, etc., or you can type English labels to the left of the formula bar so that your formula for a calculated field to show profits could read something like 'Costs + Revenue — Expenses.'

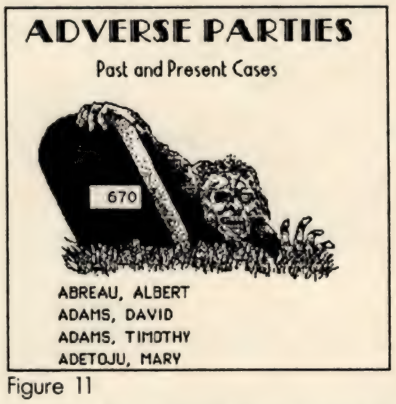


Figure 11

Another factor which potential purchasers should consider is sorting and calculation time. I find *Reflex* to be a speedy performer in all respects except what I call 'analytical reports.' *Reflex* can zip from Record 1 to my Last Record in about 3 seconds. Reports which involve the actual display of part of linked data records (Figure 4) calculate in three to eight minutes, depending on the size of the database and the number of nested repeating collections that have to be processed. On the other hand, complex summary reports can take over 2 hours to calculate themselves. If you are in a rush to analyze your data without actually displaying it, you may want to look elsewhere.

GRAPHICS AND LAYOUT CAPABILITIES

Reflex accepts graphics either in data entry forms or in report templates. One nice feature is that calculated fields can overlap graphic elements. In Figure 8, the calculated field shows that the repeating collection showing names of adverse witnesses 'repeated' 670 times; i.e., that the list has 670 entries. Reports and data entry forms will support multiple fonts, but *Reflex* will only show the first 16 fonts that appear in your font menu; the rest are greyed out and unavailable at any time. For credit where credit is due, the graphic in Figure 8 is part of the *Bytes of Fright* collection, ©1986, A.A.H. Computer Graphic Productions.

SYSTEM AND EQUIPMENT CONSTRAINTS

Now let's put *Reflex* in perspective with other database programs with which I am familiar. On the positive side, if you include the Help file, you need only 310K of disk space and 512K of RAM to run *Reflex*. You can use a single drive Mac Plus if you don't mind using a RAM disk and have a small amount of data. To the program's credit, each report template takes up only 12K to 25K of disk space, depending on how many graphics are involved and how many nested repeating collections there are. I have a friend using *Double Helix* and *each* of his report templates takes up 260K on the disk.

On the down side, the program runs much better and calculates reports much faster on a hard disk. Additionally, you need a generous amount of disk space for the invisible print files which *Reflex* creates when it is calculating and printing reports. Also, once I have calculated a complex report, *Reflex* does not offer me a convenient way to save the finished report as a separate document. I can either export the data which the report has collected, *or* I can close the report and 'recalculate it later' using the same template. I don't know about you, but when I have to wait 2.25 hours for something to calculate, I don't relish the thought of doing it again later! There is no way to just save the report in Figure 10 as 'November Stats' as a print file so that I would always have a formatted, calculated archival copy on hand. I tried using *Glue*, by Solutions, Inc., to make such a print file, but for reasons unknown to me, it didn't work.

The prospective purchaser should evaluate the goals and purposes of purchasing a relational database before considering *Reflex*. The program is an outstanding flat file system, and an above-average relational database. In its present incarnation, it does not pack the kind of

features to make its full power available to the novice. The manual ranks with the worst that I have ever seen, as it devotes almost no space to creating reports from linked datafiles. Since most people will want the program for creating relational reports, I find this to be a rather serious omission. I have not found any reference books on *Reflex*, so you either have to be very adventurous or very independent when it comes to figuring out what to do with or how to use the program. If you don't mind dealing with Borland for your technical support and you've got a few weeks to really experiment with the program, you can use this $99 program to essentially create a runtime vertically integrated database system that has everything that the 'Big Boys' offer except for custom menus. Now *that's* something to think about.

ANOTHER VIEW OF REFLEX

By Jonathan Lawton

I tend to cut *Reflex* a lot of slack because its list price is under $100, whereas the other programs reviewed start at around three times that. But, at any price, *Reflex* is a nice alternative to *OMNIS* and *Helix*—powerful, yet easy to use.

One of *Reflex's* major limitations is that it allows only one non-calculating entry screen for each file. This is a difficult limitation to accept if you've been spoiled by *Helix*. It also lacks all of the customization features necessary to create turnkey database systems. As a result, it isn't a good choice for database designers.

Finally, as already mentioned in the article, but worth stressing again, *REFLEX* HAS A TERRIBLE MANUAL!!! Come on, guys, get with it! *Reflex's* Help screens actually have more information than the manual does. I suspect there are hundreds of wonderful and exciting things that *Reflex* can do that no one does simply because they can't figure out how to use the program.

I think Borland severely underestimates the damage that having a poor manual can do to the sales of a product, especially a business application where word of mouth from other users is tremendously important.

On the other side, the core of *Reflex*—its unique 'database with spreadsheet-like features' approach—makes it potentially the best database product around. If Borland introduces a strong update (rumored to be in the works), and rewrites that manual, *Reflex* might win the database sweepstakes.

OMNIS 3 PLUS— WHAT IS IT? WHO NEEDS IT?

By Jerry Rogan

As a registered *OMNIS* 3 Developer, and a consultant to small and mid-sized businesses, I am often asked two questions about *OMNIS 3 Plus*:

1. What is it?
2. Who needs it?

While on the surface these may seem like rather simple questions, let me assure you that they are not! We Macintosh users often have to make serious decisions about what particular software package we want to use to accomplish a given task or set of tasks. All too often, this decision is complicated by the fact that we have so many database management programs to choose from.

In this report, I will attempt to answer these questions, hopefully without causing further confusion.

WHAT IS OMNIS 3 PLUS?

Rather than listing the product's specifications here, let me generalize by stating that *OMNIS 3 Plus* is *Powerful, Ultra Fast, Dependable, Flexible*, and probably the most *supported* relational database management program there is for the Apple Macintosh computer!

While *OMNIS 3 Plus* is a database management system that can be used by just about anyone, it is not for those who will not read a manual, dedicate time to learning the product, or perhaps purchase a predesigned *OMNIS* library from a host of developers.

OMNIS 3 Plus has a 4th generation programming language built in that allows you to customize an application library with your own pulldown menus, on-screen 'Click' type command buttons, and, of course, your instructions to be performed when these menu or button items are selected. The report generation portion of the program allows you to design just about any type of report or form you can imagine, including checks, invoices, labels, personalized form letters and more!

I have recommended and installed other database management systems for clients. The adjectives I used above to describe *OMNIS 3 Plus* are relative. *Power, speed, flexibility, support, dependability*, and *relational*—all mean different things to different people. Allow me to explain...

WHO NEEDS IT?

This question is easier to answer by telling you who doesn't need it—or possibly can't use it.

1. If your applications require a basic data management system such as mailing lists, simple product lists, recipe files, or keeping track of your videotape collection, you probably do not need *OMNIS 3 Plus*. These type of applications, where information is generally stored once and has no effect on other datafiles, can generally be handled by a simpler and less expensive file management program such as *OMNIS 2, Record Holder, Microsoft File*, or several others.

2. If your applications require you to store graphic information, such as a digitized picture of a home for a real estate listing or a digitized photo of an employee for security purposes, you simply cannot use *OMNIS 3 Plus*. *OMNIS 3 Plus* does not currently support graphics type entries, nor, to my knowledge, will it in the near future.

Now, who really needs *OMNIS 3 Plus*? As a now-famous saying goes, *The Rest of Us!*

The range of applications that are currently handled, with great success, by *OMNIS 3 Plus* is incredible. Everything from the Automotive industry to Video Store Management applications are being solved with the use of *OMNIS 3 Plus*. Rather than bore you with a dry story of how good an accounting program you can create or purchase to use with *OMNIS 3 Plus*, let me describe a recent project that my wife, who is not a computer type person, had me complete for her recently.

As a member of our local high school band boosters organization, she serves on a committee that is in charge of a fundraising sales campaign. She needed to find a way to keep track of a list of band members, products that they

were to sell, and the orders that each student would be turning in. At the end of the campaign she would have to determine how many of each product to order from the supplier, how much of each product to give to each student for delivery to their customers, and finally determine how much money the campaign raised for the school band. A big task? Not for *OMNIS 3 Plus*. Let's break it down graphically.

Figure 1 shows the files that will be required for this application. *OMNIS 3 Plus* will allow us to create and maintain all of these datafiles in one data library so that the information from one file can be used with information from another file. As a matter of record, *OMNIS 3 Plus* will actually allow up to 156 files to be used at the same time from within the same application: 12 datafiles and 144 index files.

Fig. 1

Now that we have our three files named and located in one data library, our next step is to tell *OMNIS 3 Plus* that, as we enter a student's order, we want that order to be a part of that student's record, and no one else's. This is called a relation, and can only be performed with a *relational* database management system. Examine Figure 2 for a graphic illustration of this.

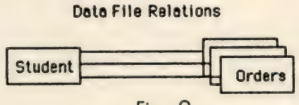


Fig. 2

Regardless of how many orders a student turns in, we only have to enter his or her name once, in the Student file, and, by telling *OMNIS 3 Plus* to keep track of each of the student's orders, we will also be able to keep track of what products that student has sold, and will have to deliver. All student orders will be kept in the Order file. This type of arrangement not only conserves valuable disk space, it greatly speeds up the time required to search for a record, whether we are looking for the Student (parent) or Order (child) record.

An advantage of having all of our datafiles in one data library is that one datafile can make use of information in another datafile. Figure 3 demonstrates this graphically. While we want each student's order to be attached to a particular student record, we also want each student's order to get a product name and price from the Product data file.

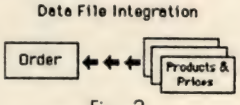


Fig. 3

While we are not telling *OMNIS 3 Plus* to make a parent-child relationship here, we are asking that the product names and prices be available to place onto our order form. I prefer to call this exchange 'Data File Integration,' — technically, I suppose, it's still called a relation. Anyway, by allowing this data exchange between datafiles in a data library, we once again conserve on disk space and the time required to enter an order or look up a product name and price.

Speaking of time savings, *OMNIS 3 Plus* can typically locate a specific record within a file of 100,000 records in approximately 2/10ths of a second. I had trouble believing this myself until I actually created a school librarian program and tested it.

Now, that I have used my wife's application to explain some of the power of *OMNIS 3 Plus*, let's use her basic application as an analogy to other applications.

As you can see from the above, the applications are similar. Perhaps some are more detailed than others, but *OMNIS 3 Plus* can handle that. That's what the *flexibility* adjective is all about—allowing you up to 12 various data entry screens for each data entry layout, and several data entry layouts per file. You can also have up to 120 fields of information per screen, type cast as numbers, dates, formulas (with 11 significant figures and 6 decimal places), etc.

Of course, these screens can be designed any way you wish, and perhaps made to match an existing pre-printed form to retain familiarization and ease operator training.

Up to 10 levels of password protection are available to you, and each menu item, onscreen radio button, or data entry screen can be addressed for a specific password.

When searching for an item, you could specify up to 50 comparisons for each search routine, and store the routines away under special names to be recalled later for repetitive searches. The files can be sorted in any number of ways, and again, very quickly!

Let me reiterate that if your datafiles must work with each other, or you simply require a great amount of speed when accessing records, you need *OMNIS 3 Plus*.

WHY OMNIS 3 PLUS?

While *OMNIS 3 Plus* is not the only program available for the Macintosh that will accomplish all of the above (and I have only mentioned a few of its features), it is a clear choice for many reasons.

GENERALLY

With *OMNIS 3 Plus* you do not have a Desktop full of icons to click on and hope that you have chosen the correct one. You only have 2 icons for each file you create: the *OMNIS 3* Library, which stores your file features such as screen layouts, report formats, file formats, etc., and *OMNIS* Data, which is where all of the information you enter into a file is stored.

Once you are working with a file, you perform all of your tasks by using pull-down menu selections or on-screen command buttons. This, I feel, is a pleasant way to use the Macintosh interface without abusing the icon concept.

Data stored in an *OMNIS 3 Plus* file can be exported or imported to or from several other applications, or into most other types of personal computers. This is a feature often overlooked when shopping for a database management system, and yet one that may be on your priority list.

SUPPORT

OMNIS 3 Plus is supplied with a tutorial designed to be used with sample files, also supplied with the program. There is an extensive reference manual included that covers anything and everything the tutorial missed.

Blythe Software offers several support plans to end users. The telephone support is great, except occasionally you simply can't get through. The folks at Blythe return your calls promptly, and seldom do two calls ever have to be made to answer your question—the people at the Blythe end of the telephone are usually pretty sharp.

Blythe Software has an extensive network of independent registered developers who not only create and market a large number of ready-to-use *OMNIS* libraries, but are available to create custom applications or perhaps be hired for private instruction. While Registered Developers are not included in the free support offered by Blythe, their services are nonetheless available to you, and usually for a modest fee.

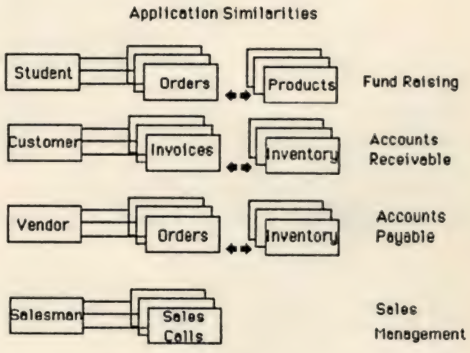


Fig. 4

IN CONCLUSION

Dollar for dollar, feature for feature, *OMNIS 3 Plus* is one of the most powerful and complete data management programs available for the Macintosh. The lack of handling graphic type fields in a database has had little effect on the success of the product. After all, most of us have to keep track of words and numbers, and be able to use these words and numbers in a variety of ways. This lack of graphics is one of the reasons for the outstanding speed in which we can retrieve our data and make use of it.

I have worked with clients who considered the Macintosh computer a 'cute' machine until I demonstrated some of the applications that are available with *OMNIS 3 Plus*. I seldom hear

the word 'cute' from then on. *Power, Speed, Flexibility, Relational,* and *Support* frequently become the new words around the Macintosh desk.

OMNIS 3 Plus by Blythe Software is not cute—it is a solution. Not to one application, but many.

If you're looking for ways to solve your application(s), go to your nearest software vendor and request a demonstration. If he is not familiar with *OMNIS 3 Plus*, go to a vendor who is! You won't be disappointed.

ANOTHER VIEW OF OMNIS 3

By Jonathan Lawton

OMNIS 3 is quick, powerful, and full-featured. But it is also difficult to learn, hard to program, and un-Mac-like. In many ways, *OMNIS* is a throwback to the pre-Mac days of databases, back when you had to define each field and the number of characters in each field during the creation of your database, and then you *never* got to change your mind. (These days, nearly all Mac databases allow you to add fields and type as many characters as you like in a field at any time.)

OMNIS 3 is the database of choice for database designers and third party developers, but it is frustrating for nonprogrammers to learn to use. Even after you've learned to use it, *OMNIS* is awkward to work with. Whenever I work in *OMNIS*, I feel like I'm programming on an IBM. This is a terribly unfriendly program to run on the friendly Mac.

Reports generated in *OMNIS* have a tendency to be ugly, because *OMNIS* doesn't have a lot of flexibility in the mixing of fonts and font sizes. *OMNIS's* field size limitation of 70 characters makes it unsuitable for any databases where large amounts of text need to be stored (an area where *Helix* shines). On the other hand, *OMNIS's* programming features, and the fact that it is *fully* relational (unlike *Helix*) make it the most powerful database program for the Mac.

If you want to program your own database, and you don't consider yourself an advanced user with a knack for hacking, don't buy *OMNIS*. On the other hand, there is an army of card-carrying 'Registered *OMNIS 3* Developers' out there who would be happy to program your *OMNIS 3* database for you for a fee. (Apparently *OMNIS 3* developers, like handguns, must be registered.) Come to think of it, I don't know anyone who actually programs *OMNIS 3* who doesn't make their living programming *OMNIS 3*.

If you require a heavy duty database, such as for an accounting system, chances are you're stuck with *OMNIS 3*. It really is the most powerful database around. Buy it, try to figure out the manual, give up, and call a pro.

THE HORRORS OF HELIX

By Ezra Katz

I can be silent no longer. My love affair with *Helix* (*Double Helix, Multi-User Helix*) has ended. After six months of close interaction with all those cute little abacus icons and subforms, I finally had to admit that my affections were misplaced. I have begun to stray elsewhere for my database needs.

Helix is a prime example of why you should be careful choosing a database. Here's a top-selling program, with rave reviews in *Macworld* and *MacUser*, that is so fraught with flaws and bugs that it should be required to have a warning label on its cover.

Without a doubt, *Helix* is the most innovative relational database for the Mac (or any other computer), and it has a lot of wonderful features. Once you get the hang of its unusual interface, *Helix* makes it incredibly simple to design complex databases. Furthermore, *Double Helix* is loaded with many bells and whistles that allow you to add a lot of flash and sparkle to your databases. You can build custom Help screens and interactive entry forms. Custom menus are a breeze, and Odesta's multi-user version is an excellent implementation of *Helix* for multiple users over an AppleTalk network. Odesta has even introduced a version of *Helix* that will run with Macs on a VAX.

These reasons and others are why many database designers and users (myself included) jumped on the *Helix* bandwagon early. We were duly rewarded with '*Helix* Pioneers' T-shirts. But six months after having put a *Helix* database on every Mac I could find, I found myself with a nightmare on my hands. *Helix* had a darker, ugly side.

For starters, contrary to what Odesta would have you believe, *Helix* isn't really relational. It's kinda relational, but often kinda isn't enough. What *Helix* allows you to do is look up information from one file and read it into another file. It also allows you to look up information in one file based on a criteria of another file. What it doesn't allow you to do is link information in one record to a specific record in another file.

For example, if you had a file of customers and a file of invoices, in a truly relational database (like *Reflex*) you'd type the name of the customer into the invoice and that record would be linked with the customer file. The actual name of the customer would only be stored once—in the customer file—with all associated invoices linked to it. In *Helix*, however, the two records are never actually linked, and the name of the customer is stored in both the customer file and again in the invoice file. They only appear to be linked when a report is generated. The drawback of this method is that twice as much information is being stored, and there is a greater chance of error if you spell the name differently in one file or another.

Furthermore, after you get past the originality of *Helix's* unique user interface, you'll find that it leaves a lot to be desired. All those dozens and dozens of little icons spread across a huge landscape can become quite difficult to keep track of. It isn't surprising to find yourself spending ten to fifteen minutes searching through the Desktop trying to find the right form to make a small change in. *Helix's* clean-up feature, like the Finder's, usually makes a larger mess of the icons than before. As a result, you frequently spend more time searching for and organizing icons than creating forms or actually entering data.

Abacuses, cute at first, are actually a rather awkward way to program complex functions. *Helix's* abacuses use arrows to connect tiles together to form a calculation or search procedure. The only problem is that it is easy to end up with dozens and dozens of tiles connected together across another vast landscape of Desktop. There is no way to view the abacus as a whole; each section must be scrolled through slowly. Imagine trying to scroll through a 10x10 page *MacDraw* document without a 'Reduce to Fit' view.

I could easily forgive these minor complaints, but for one, overwhelming flaw: *Helix* is *slow*. We're not talking slow, we're talking ssllloooowwwww. Not only that, *Helix* is slow all over. On every other database available, as you enter more records, it takes longer and longer to search for individual records, or to print out summary reports. This makes sense—the more information to sort through, the longer it takes. But with *Helix*, not only does it take longer to find records, it takes longer to *enter them*. I created a *Helix* database with about a thousand records where it took *ten full*

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minutes to enter a record. After the information was typed in and you hit the Enter key, the computer froze up for ten whole minutes before you could enter another record. Not only was entry slow, but every aspect—scrolling (remember those vast icon-ridden landscapes?), redesigning forms, designing new abacuses, everything—slowed down to a turtle's crawl. Some complex reports took over *eight hours* to run (a similar report took twenty minutes in *Reflex*). We're talking slow. No wonder Odesta came out with a version that runs on a VAX, but I suspect a Cray wouldn't be enough to speed this thing up.

Part of this slowness springs from a deadly *Helix* design flaw. It doesn't appear to have any garbage collection. Garbage collection occurs when a database empties out deleted records, forms, and sort indexes which are no longer in use. For example, if your database takes up 100K of disk space, and you delete twenty records, upon return to the Finder you should find that your database takes up noticeably less space—say 88K. Not so in *Helix*. When you delete a set of records you won't find your database shrinking; in fact, usually you'll find it growing. The fact that old records are not cleaned out from the database is especially irritating considering *Helix* does not have an 'undelete' or 'recover records' feature. They're still there all right, you just can't get at them. Furthermore, it appears that *Helix* does not clean out old sorts and forms. If you're in the habit of creating *temporary* sorts and forms for certain jobs, you'll find your database growing in size at an alarming rate, even though you may not have entered *any* new records.

For example, on a *Helix* database that I designed, I was surprised to find the database taking up more and more disk space, even though the number of records continually remained around 500. New records were entered, but other were being deleted. Nevertheless, the database continued to grow, from 800K, to 1,000K, to 2,000K. Finally I started to panic. If the relation had grown that much in two months and never shrunk, how long would it take before it ate up my entire hard disk? Out of desperation, I dumped all the records into a plain text file. Funny, they took up a mere 150K in my word processing application.

Next I created a blank *Helix* file that contained all the forms and abacuses of the original. The blank *Helix* file only took up 50K. Confused, it tried reloading the text data into the blank file. Bam! they suddenly took up 1,000K. Don't ask me how 150K of text can take up 1,000K of disk in *Helix* space, but the worst part was that a week later, the same number of records were taking up 1,500K. (As a test, I found the same records took up only around 500K in *Filemaker Plus*. Unlike *Filemaker*, *Helix* retains each sort as an index and apparently stores it on disk so that it can be called up later. *Filemaker* must sort the entire database each time you request the sort. Ironically, in most cases it takes *Filemaker* less time to sort the database from scratch than it does for *Helix* to find the old index and display the information.)

The frustrating thing about all of this is that *Helix* SHOULD be a good program. But Odesta, instead of correcting these major flaws that have plagued the program from its beginning, have concentrated on adding wonderful new features to their upgrades. Now don't get me wrong. New features are wonderful. But if the most basic aspects of the application (finding records and printing reports) are so buggy as to make them nearly unusable, the new features are pretty useless.

Here's one example of Odesta's efforts to solve some of *Helix's* bugs: another flaw of *Helix* is that if there is a system crash it trashes your entire file. Yes, not just the last record you were on, your *entire* file. This is the only database I know of where you are guaranteed of losing your file on any system crash (and *Helix* seems to crash more often than, say, *Reflex* or *OMNIS 3*). As a result, frequent backups are necessary for any *Helix* database. The only problem with backing up is that you lose any records you were working on when you crashed. To solve this, Odesta added a new 'Log File' feature to its most recent updates. This allows you to create a separate file that is concurrently created as you enter records. If you crash, you can go to the log file and combine it with the last backup file, thus restoring the records you were entering when you crashed. The question is why Odesta can create a log file that survives a system crash, but can't fix the main file to do the same. The end result is that you have to activate and deactivate log files and fuss with extra icons to solve a problem that shouldn't be happening in the first place.

These days nearly every former *Helix* developer I know has switched to programming with *OMNIS 3* or some other database. After much frustration and wasted time with *Helix*, I ended up converting most of my *Helix* databases to *Filemaker Plus* or *Reflex*. They're not perfect either, but they get the job done—something that *Helix* often doesn't seem to be able to do.

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ANOTHER VIEW OF HELIX

By Jonathan Lawton

Helix does have a lot of problems, but on the other hand, it can do some things that no other databases can do. It has many of the powerful customizing features of *OMNIS 3*, but it can store large amounts of text and graphics, something *OMNIS 3* can't do. Unlike *Reflex*, *Helix* allows an unlimited amount of entry screens, and entry screens can be programmed to be interactive. Once they get the hang of it, *Helix's* unique interface allows novice non-programmers to program some pretty sophisticated applications. In fact, it's almost fun to program databases in *Helix*. Furthermore, it's easy to redesign the database as your needs grow—something virtually impossible in *OMNIS 3*.

The problems with *Helix* mostly come up when dealing with very large files. If you have less than five hundred records, chances are that *Helix's* slowness won't be too frustrating. If you need to sort large amounts of data—up to several pages in a field—*Helix* is almost your only choice. *Helix* also excels in creating applications which require lots of different forms and where lots of differing types of data interact in a variety of ways. It should also be noted that Odesta has made efforts to improve the speed of *Helix* in each of its updates. Though the serious database user should be wary of *Helix*, it shouldn't be overlooked, either. It can be a great program if it's used right.

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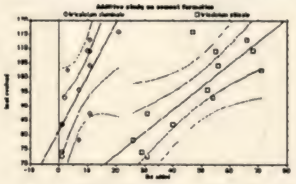

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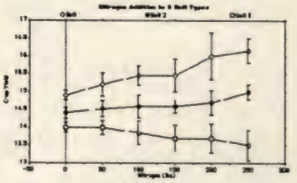

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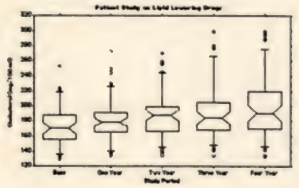

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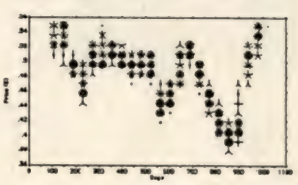

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by J. D. Athens

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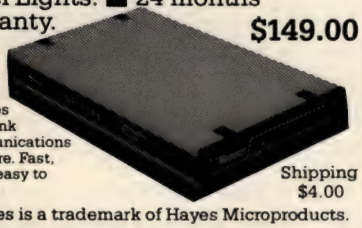

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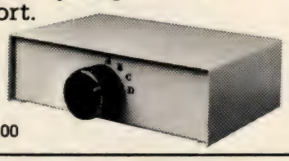

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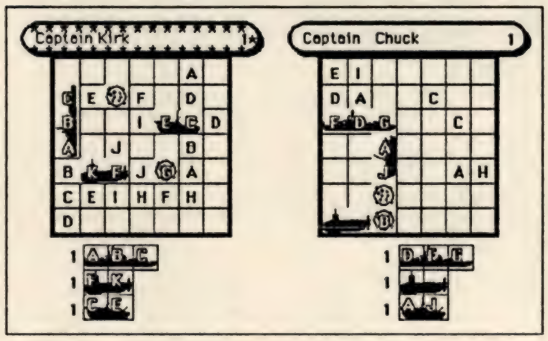


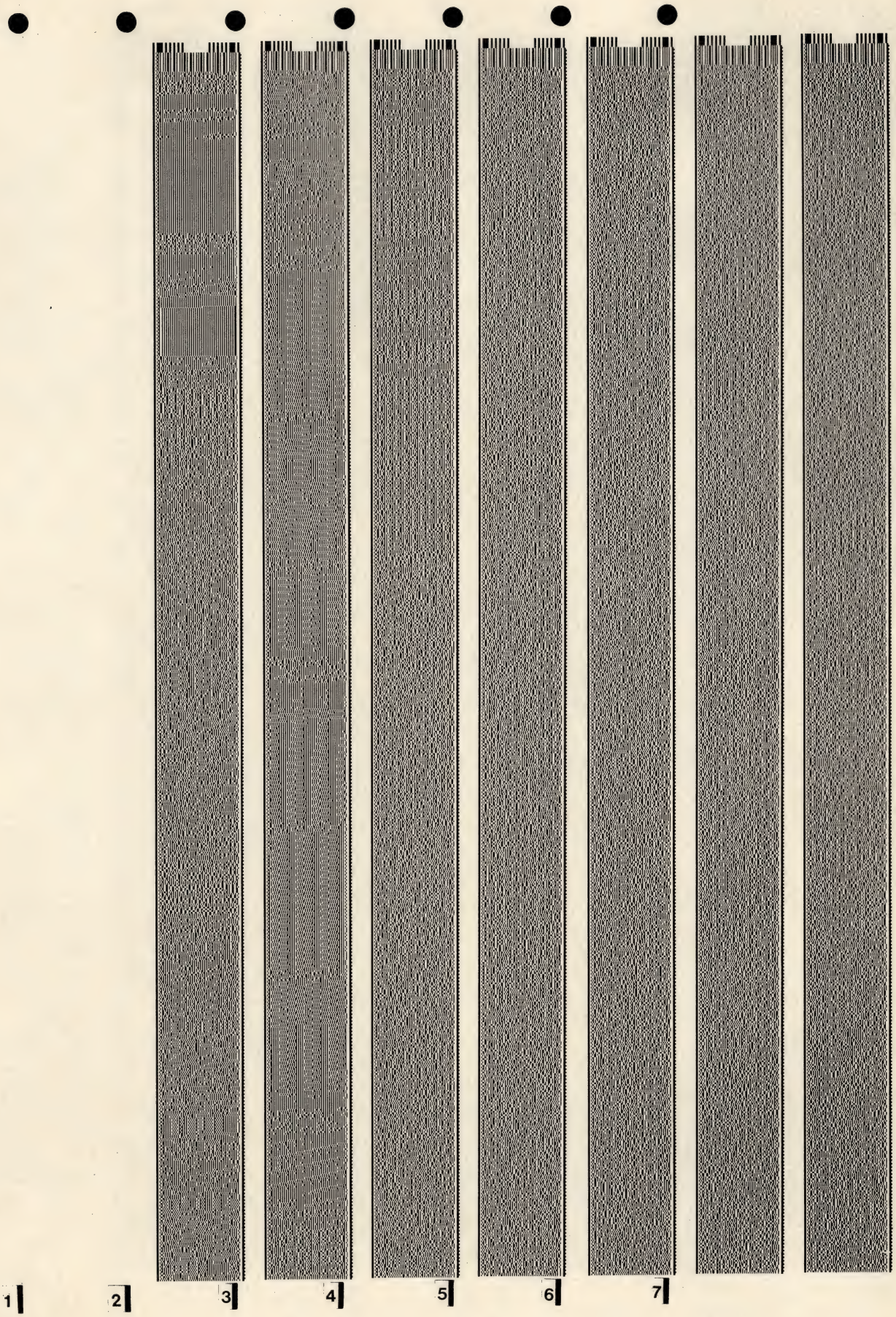
By C. J. Weigand

This month's SoftStrip is a version of a new computer game that's sure to capture your attention. Remember the fun you had playing 'Battle Ship' when you were a kid? Battle Ship was a pencil and paper game where you positioned ships on a grid, and then took turns calling out coordinates (shots) in an effort to sink your opponent's fleet before he sunk yours. You were limited in how many shots you got—a number which steadily decreased as your ships were successively hit and sunk. You'd play for hours at a time, and build ever larger grids in order to make the game last longer. At one time, as I recall, a board game was released under the same name, but it was made of plastic, broke easily, and pieces were always getting lost. Paper and pencil was best.

Well, the adventure of Battle Ship is back, this time in a similar game for the Macintosh called *Battle Stations*. You don't have to painstakingly draw and label grids anymore, and there're no pieces to lose or break. You can either play against other opponents or the computer, the board can be varied in size, and several degrees of play difficulty exist. Sound effects further enhance playing enjoyment. You're given six ships and three mines to place on your grid. Once they're in final position, they become hidden from further view. You then use the same grid to plot your shooting as you attempt to sink the enemy fleet. Nine shots per turn are given at the start of each game, and shots are deducted from subsequent turns based on the number and type of ships that are sunk. If you hit a mine when shooting, that abruptly ends your turn (and believe me, it's a real bummer when you hit a mine on the first of nine shots). Each pattern of shots is alphabetically labeled so that you can develop a firing strategy based on hits scored.

Much as I hate to admit it, I found *Battle Stations* to be addictive, and I stayed up several nights well past bedtime sinking enemy ships. This stripped-down SoftStrip version doesn't have sound, the board is fixed at the minimum size, and you only get three small ships and two mines. But, nevertheless, I'm sure you'll find the game absorbing. I know I did. In the accompanying figure you can see that I lost to my opponent when I was unable to locate his submarine. *Battle Stations* requires either a 512K or Mac Plus. It's not copy protected, so you can install it on your hard disk if you like. Future enhancements to the released version are being planned, and owners will be able to get updates free of charge just by sending in their original disk.

This SoftStrip version of *Battle Stations* is provided for your enjoyment, courtesy of Timeline, Ltd. Keep in mind, though, that it is copyrighted material not intended for commercial resale. If, after playing with this stripped-down version, you're interested in buying a copy of the full-featured release version (a foregone conclusion), give Timeline a call at (313) 483-3939, or send them a check or money order in the amount of $30 (that's right, only $30) to: Timeline, Ltd., Box 60, Ypsilanti, MI 48197. And for all you would-be Admirals out there, happy hunting on the high seas!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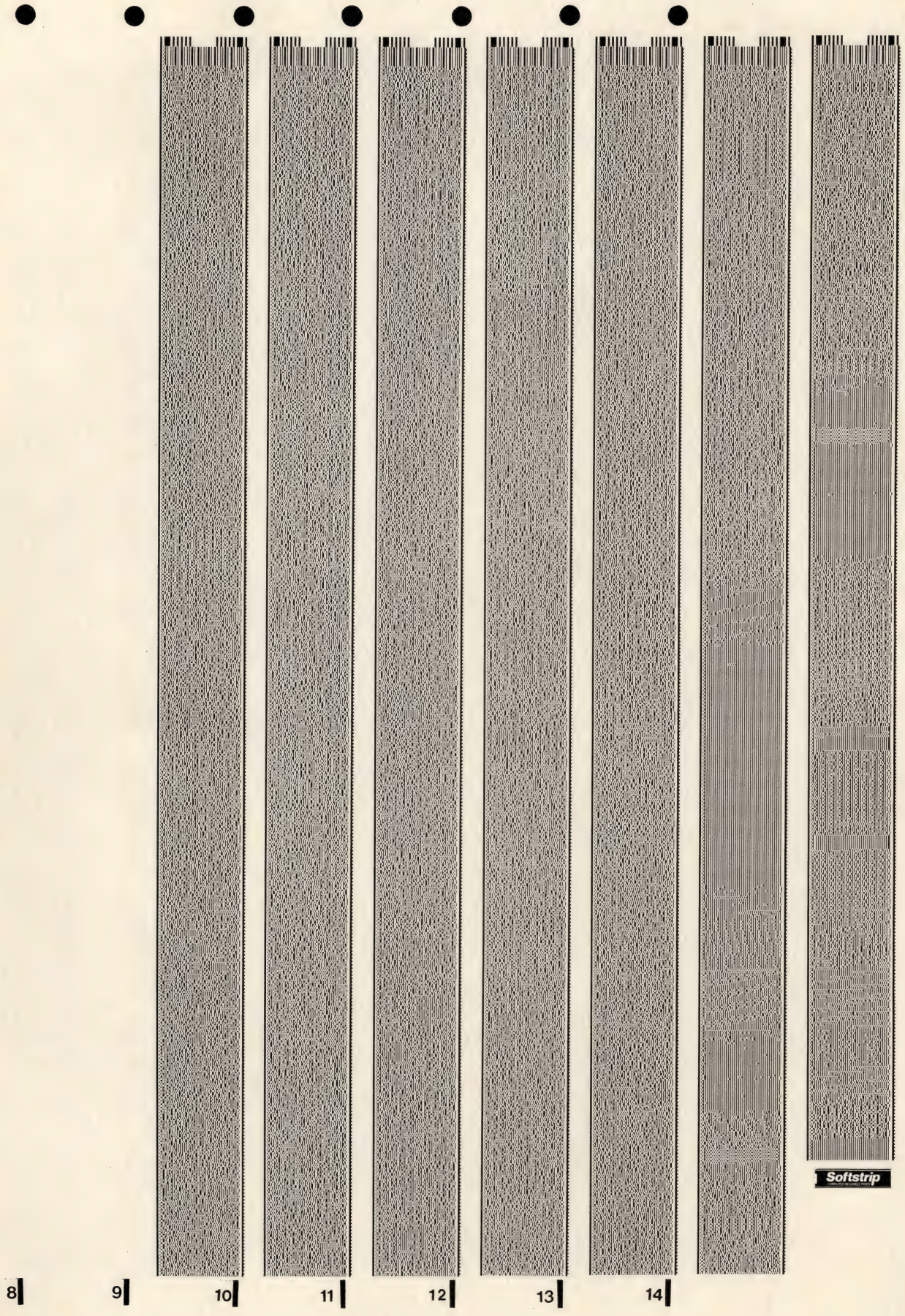
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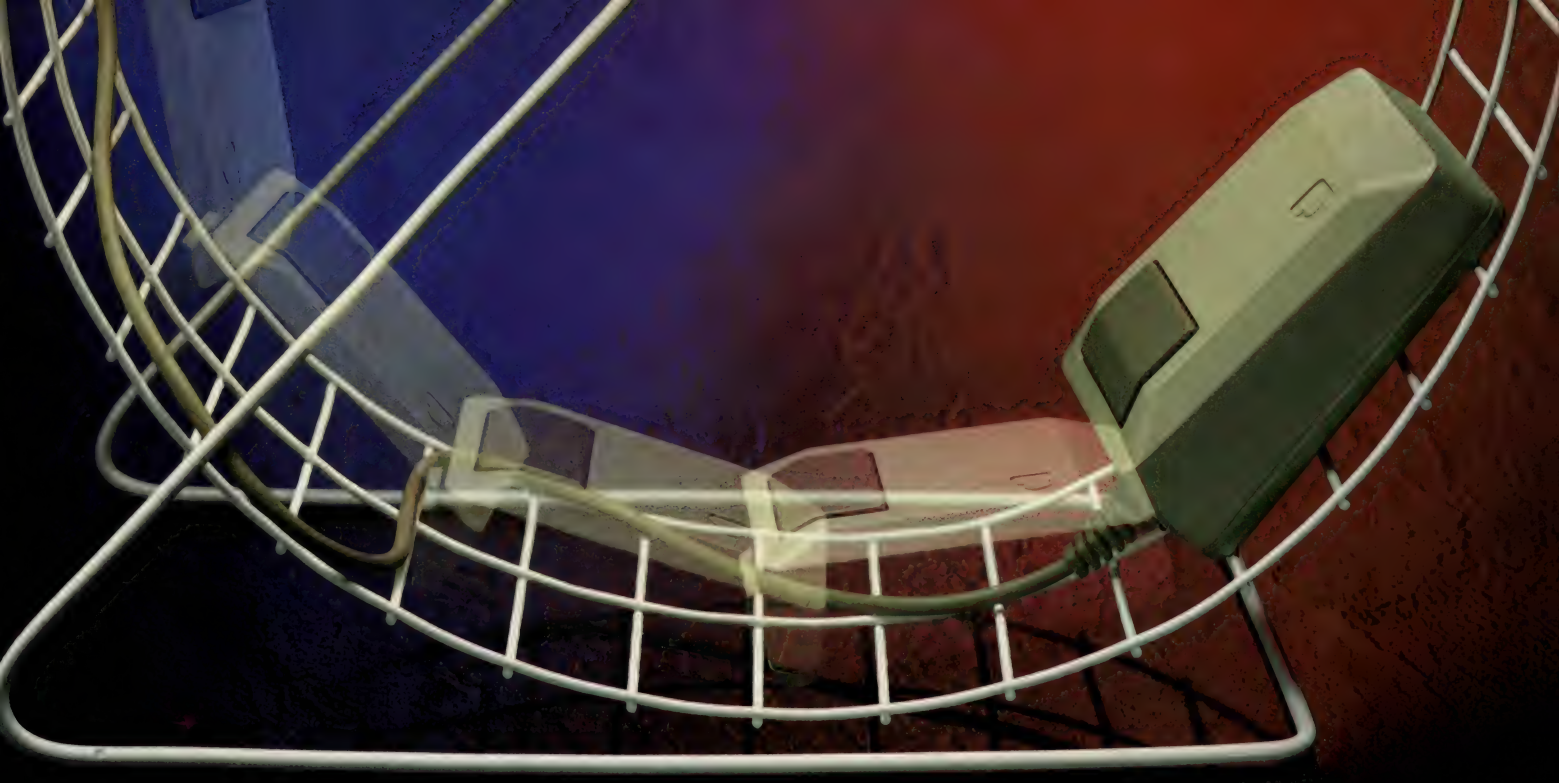

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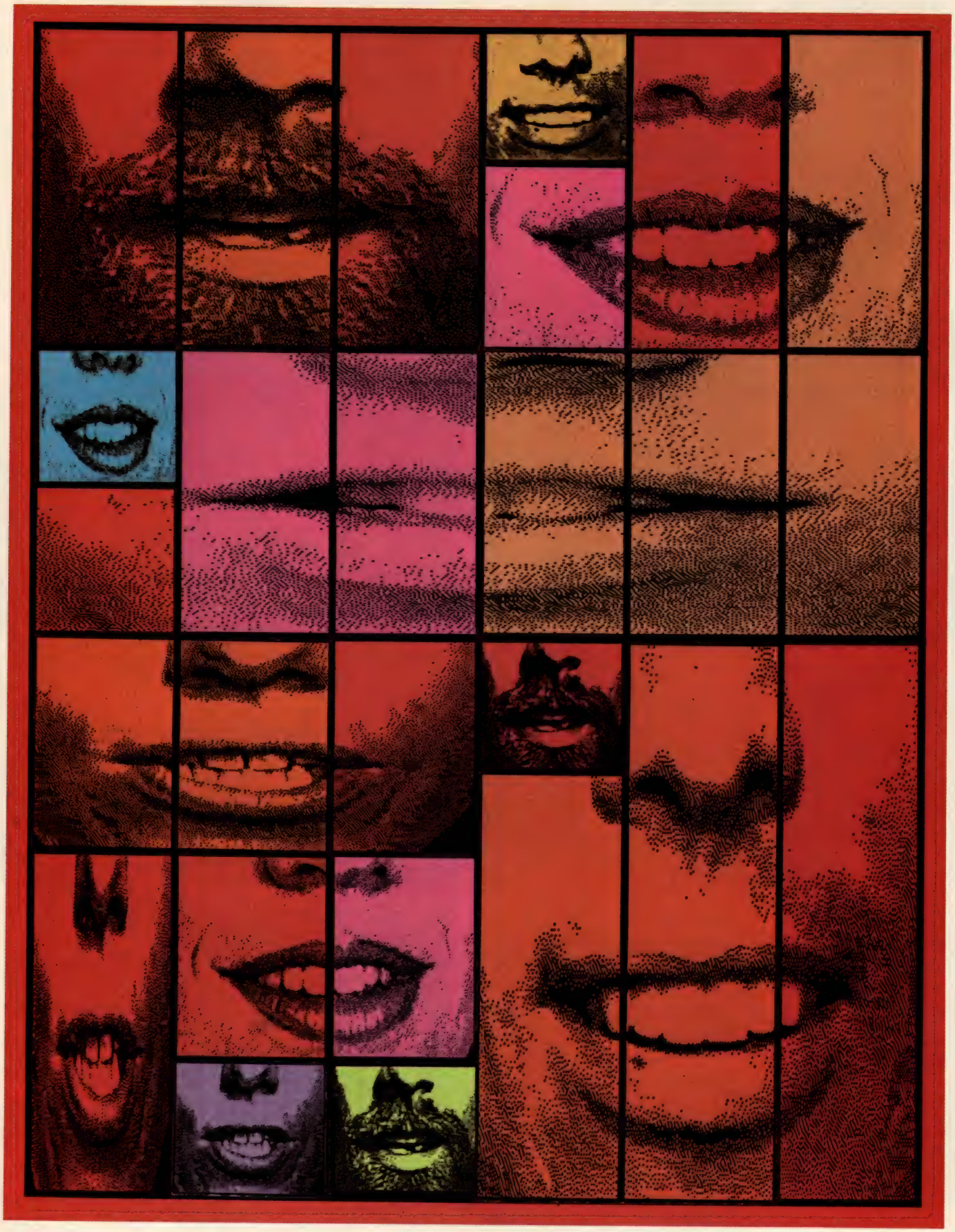

DEVELOPERS SPEAK OUT ABOUT APPLE'S NEW MACHINES

HANDS ON

By Robert LeVitus

[You should probably read Howard Bornstein's 'The Expanding Universe' (which appears elsewhere in this issue), before you read this story. It will make more sense that way, as Howard's story describes the two new Macs in detail.]

Just before going to press, I got a memo from Apple Public Relations which said: "The Cabernet and Chablis developers on the attached list have been released from their nondisclosure agreement with Apple to speak with YOU about their upcoming products."

Apple adores cloak-and-dagger stuff. 'Cabernet' was Apple's most recent 'code name' for the Macintosh II (known earlier as 'Paris' and/or 'Milwaukee,' depending on who you talk to), and 'Chablis' (Aladdin) was their name for the Macintosh SE.

Late in January, Howard Bornstein and I were invited to Apple for a top secret briefing and an advance look at the new Macs. Although what we saw there was mindboggling, we didn't have time to play with the machines as much as we would have liked. Many developers, on the other hand, have had access to the new Macs long enough to feel comfortable commenting on them. I smelled a story, and I quickly contacted as many of the developers as I could...

DAVE WINER—LIVING VIDEOTEXT

Dave Winer, outspoken president of Living Videotext (*MORE, ThinkTank*), began describing the Macintosh II by telling me that everyone else can get in line behind him. He calls it a 'lust machine,' and recommended that I start saving my pennies.

Dave says this is Macintosh 100% unchained—the machine we've always dreamed of. There has never been a personal computer as highly networked as the Mac, and the new machines introduce resources for networks which are almost limitless. He expects you'll be seeing people working electronically in groups, sharing intelligence over the network, and performing tasks far more sophisticated and productive than mere electronic mail.

Remember, Dave is the guy who invented a whole new category of software—outline processing. I wanted to know what he saw in the next generation of software. He foresees applications which utilize 4 or more megabytes of RAM, and says you're dead wrong if you think that's not a revolution just waiting to happen.

That was as specific as he would get, so I changed the subject to the new 256K ROMs in both new Macs. He says improvements in the text editing routines give better control over type, and include color and kerning. Hierarchical menus which allow menus to pop out of other menus were another thing he liked. Nice as those features sound, though, he said we'll probably look back a year from now and say the biggest innovation was a feature called 'display-list font,' which utilizes QuickDraw routines to display fonts. 'Vastly improved,' was his overall evaluation.

His parting comment was that the Macintosh II is as good as it appears to be—not just a bunch of smoke. Not the kind of guy who misses an opportunity to plug his own product, he compared it to the free upgrade they just shipped—*MORE 1.1*—as being everything the users asked for.

ALAIN ROSSMAN—RADIUS

Alain was tickled pink about the arrival of the new Macs. He says a Mac with a slot is the best thing that could ever happen to them.

Expect at least 3 new products from Radius this year, the coolest-sounding of which is their accelerator board for the SE. It features a 68020, 16 Mhz clock, and what Alain describes as 'some very exciting proprietary technology.' With guys like Andy Hertzfeld and Burrell Smith running around their offices, that's not hard to believe. They plan to produce a very interesting product which will be priced at 'well under $2,000.'

He emphasized that Radius is developing products for both new Macs, and that, while the Macintosh II will be the flagship of the line, many people will still opt for Pluses and SE's. The smaller Macs still offer a powerful, compact solution, and market research indicates that enormous numbers of people schlep their Macs around. Still, he expects that a lot of people will rush out and buy a Macintosh II, and Radius will be a major player in that card/peripheral market.

He sees open architecture creating a new set of opportunities for users as well as developers. With multiple vendors and boards, customizing a workstation environment is going to be easier than ever. The point of installation will move from the dealer into the home; boards will be sold by mail and easily installed by users with little or no technical expertise. He thinks this is a development so significant it will change the very nature of the business.

ASH JAIN—AST RESEARCH

Ash sees the new Macs creating endless possibilities for third party developers. He says their introduction is what AST has been waiting on for the past two years, and they are totally prepared for it. AST has a number of new products slated for introduction in 1987. Communication, connectivity (to IBM), and high end graphics/CAD/CAM products, along with continued expansion of their present peripheral lines; mass storage, modems, and scanners, make AST appear to be readying a full scale assault.

Ash was eager to tell me about his new products. SE products include MacPak—a family of products which includes options for 68020 and 68881 chips, as well as serial port expansion. He hinted that other third party developers will be joining with AST to provide even more options for the MacPak family. AST plans an MS-DOS board for the SE based on Intel's 8086 chip (used in IBM-PCs and many clones) to be called the MAC86.

The Mac II has lots of slots, and AST has ambitious plans for it too. The AST-RM4 is a 4MB memory card which Ash says will be particularly welcome in the Unix environment. Also planned is the AST-ICP, an intelligent communications processor featuring 4 serial ports, 2 of which can be configured as Apple Talk, which he described as "a powerful asynchronous/synchronous communication controller which features its own 68000 chip and half megabyte of RAM, and implements full NuBus arbitration." The Mac286, an MS-DOS board based on the Intel 80286 (used in IBM-AT style machines), rounds out their big Mac product line.

I asked Ash what impact the new Macintoshes would have on sales of the 512E and the Mac Plus. He told me that even though they know all about the SE and II, his division of AST continues to order Mac Pluses. He says many applications have no need for expansion, and the Plus has the capabilities for their departmental needs. His ad-

Artwork by Craig McClain/John Odam/Michael Gosney. A tribute to Andy Warhol.

vice—don't spend for expandability if you don't have a need for it.

JIM RAFFERTY—CRICKET SOFTWARE

Cricket Software was one of the first companies to access color with Macintosh software. In some instances, color capabilities are already written into the program, only they've had to represent it on a black and white screen. Until now. He says the current versions of *Cricket Graph* and *Cricket Draw* run fine in color on the Mac II. New versions of each—which will run faster, access the 68881 math co-processor directly, and make better use of color—are already under development. The new versions will have two modes: an advanced mode, which will only run on a Mac II, and mode for all 68000 machines. He hopes to have them ready by the August Expo in Boston.

Networking possibilities also excited him. He sees users in the near future working with *Cricket Draw* in color on a Mac II, downloading a document to a VAX acting as a file server, and having it available to anyone on the network regardless of whether they are using a 386-based computer or a Mac II.

Jim says there isn't anything he can't do on a Mac II that he could do on a 386 machine running *Windows*, and he says the Mac II does it faster. He said the Mac II will have many of the same capabilities Sun or Apollo workstations have, without costing an arm and a leg.

BUT WAIT, THERE'S MORE...

Steve Vollum of E-Machines said they'll support their Big Picture large screen monitor for the entire family of Macs. He expects to do particularly well with Mac II monitors. He pointed out that Apple's largest display is only 13″ (640 × 480 pixels), while Big Picture's screen in 17″ (1024 × 808 pixels). Theirs will display a full page; the Apple display won't. When I mentioned that the display is a COLOR monitor, Steve chuckled and said: "Yeah, the color monitor is gonna blow their minds when they see it." (I'll say this . . . it blew mine.)

Curt Johnson of Levco announced the Prodigy SE, a Mac SE board featuring the same logic as the Prodigy Prime, which is currently available for 'older' Macs. They are 68020-based boards which he says give 'compact' Macs the power of a Macintosh II while retaining the portability of the current package. He expects demand for the Mac Plus and 512 upgrades to remain strong.

ICOM Simulations, creators of the near-legendary debugger, TMON, says they plan to expand into hardware with a hardware debugger and perhaps something involving communications.

Quark XPress, a soon-to-be-released desktop publishing program with many advanced features, is already doing color separations in their labs. The good news is it also works on a 512E or Mac Plus, though of course you won't see the colors.

THE BOTTOM LINE

I kept hearing the same thing over and over: the new Macs are the greatest thing since sliced bread. The new Macs east 386 machines for breakfast. If you are holding Sun or Apollo stock, sell it. One thing was clear, Macintosh developers thing Apple is doing the right stuff these days.

But, there is something wrong with this picture. Apple has indicated that the Macintosh II is expected to ship sometime in May.

Many developers already have SE's, and there are plenty of indications that it will ship in quantity soon. Not so with the Mac II. There are only a handful in the field at this time, and they are not 'frozen' yet. This means Apple is still making last-minute modifications, and mass production is still a ways off.

The question doesn't seem to be whether they'll make the May release date, but how long after that will they actually ship the first Macintosh II?

I have seen the future of personal computing and its name is Macintosh II. The only question left is: when will I see it again?

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PLUGGING IN

Q. I'm not what you'd call a 'sophisticated user,' but I've been hearing a lot about a new processor from the IBM side of the fence called an 80386. Is it better than the Mac's 68000 processor and what's the dif?

Jared Foreman
Pittsburgh, PA

A. As a self-confessed unsophisticated user, you probably don't realize that there are several sides to your question. Taken at its face value—'is the 80386 better than the 68000?'—most macho engineering-types would answer 'yes.' This is because (among other things) the 80386 is a true 32 bit processor, whereas the 68000 is a 32/16 bit processor. Without going into too much technical mumbo-jumbo, this simply means that the 68000 addresses with 32 bit words and receives on a 16 bit data bus. The 80386 (as I'm sure you've guessed) has a 32 bit data and address bus. The truly numeric natured folk like called it a 32/32 processor.

But, let me step back and take a broader view of your question, Jared — if I may. What I feel you're really wondering is: will IBM's new 80386-based machines out perform the 68000-based Mac? Am I right? I thought so. Looked at from this vantage point, the issue takes on several shades of gray. As a result, I can only give you my personal opinion — which is: 68000 Macs rule!

This is because a micro cannot live by its processor alone. The thing that makes the 68000 Mac better than upcoming 80386-based IBMs is the board that surrounds the processor. Apple's architecture allows bit mapped graphics which, in turn, supports an unbeatable user interface. IBM sincerely lusts after a graphics-oriented interface and wants Microsoft to create it for them. The problem with that scenario is: Microsoft has signed ironclad agreements with Apple (over the *Windows* imbroglio) which won't allow MS to deliver to IBM without Mother Apple's permission.

Cute, huh?

The real issue in deciding what machine is more powerful is: which machine gives the most PEOPLE the most processing power. Not only does the Mac beat IBM hands down in this arena—but the new 68020-based machines will have true 32 bit processing power, thus allowing them to eat 386s for breakfast.

Q. I have decided to upgrade my 512 to a Plus but was wondering if I really need the Plus keyboard.

Sondra Li
Anaheim, CA

A. It all depends on what you do with your Mac. If you do a lot of number crunching you could probably make good use of the numeric keypad on the Plus keyboard. If you do a lot of VT100 terminal emulating with a mini, you could certainly make good use of the Plus's keyboard-based cursor commands. With number or VT100 terminal emulation, the new keyboard is recommended. Using *Excel* with the Plus Keyboard is especially nifty.

On the other hand, if you use your Mac most often for text processing, the Mac Plus keyboard is unnecessary and even undesirable. The keys are positioned in a way that's not conducive (even downright obstructive) to rapid word processing. I'm referring in particular to the Plus's ¼$#*% return key.

Q. I have a bone to pick with Apple's sainted dealer network. I have visited numerous dealerships across the nation and all I ever run into are high-powered sales types who want to sell me stuff in the worst way but are either unwilling or unable to support a product once I've crossed their eager palms with silver. What say you?

Max Dunlevy
Washington, D.C.

A. I say: we can complain about the used-car-salesman attitude found in computer dealerships until we're blue in the face. Yet, here's the reality: there are so many different computers, with so many different programs, operating systems, peripherals, and paraphernalia—Einstein himself couldn't keep up with it all. The answer? Depends on whether you want to get real or ideal.

Ideally, dealerships would specialize in certain computers and computer marketplaces. We'd have special stores that only sold IBM-PC Jr.'s to accountants; stores that only dealt with 512 Macs for elementary schools; places that wouldn't touch desktop publishing with a ten-foot pole; etc.

Practically and economically speaking, no sane person would spend thousands of dollars to set up a computer dealership franchise. Nor, Maxie, would you, yourself, feel comfortable hitching your entire wagon to the vagaries of one computer's success in one vertical market segment!

The real answer? Self-sufficiency. Let the buyer BE AWARE . . . of what he/she is buying.

Q. What's the big stumbling block to networking on the Mac? Apple made this big ruckus in '85 about fileserving and multitasking and all this razzle-dazzle, rah-rah-rah about a Mac office. What the hell happened?

Peter Towbeth
Richmond, VA

A. The basis of the problem lies with the original architecture of the Mac. To quote Mark Cutter, a member of Apple's internal development staff and original author of *LisaDraw* and *MacDraw* . . . "The Mac was Steve Jobs' effort to do the LISA right and the good thing that came from it was a low cost machine with a fantastic user interface. The bad thing was that they didn't approve the Mac from a very high level design center. They started from scratch, ignoring the good aspects of the LISA technology . . . The Mac was done in a void and the Mac team didn't . . . build on LISA's multi-tasking."

For this reason, the Mac ended up with an operating system that's completely oblivious to multi-user considerations. Michael (Flash) Pflaumer of Centram Systems West (producers of TOPS, the transcendental operating system for connecting Macs with each other and with PC's) recently explained to me how networks usually work:

"Usually, a network is like a layer on an onion: it goes around the operating system. When a command is passed to the operating system, it can be viewed, to some extent, as going through the networking area and then into the operating system. Since calls to the operating system get filtered through the network layer, network software can get ahold of a file command before the operating system does. In an attempt to make the Mac easier

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(but which really makes it harder), file service requests go directly into the operating system, and the operating system decides if it's for local service. If not, it passes it back out again. In doing so, it makes it difficult to add additional services—because not all of the requests get passed back out."

In the PC environment, you have the extra difficulty of having to write all the software that makes the decisions on file requests, but you also have control.

With the Mac, everything depends on how well Apple did in creating the decision-making process—and many feel that Apple didn't do all that well. One of the biggest hindrances to filesharing on the Mac comes from Apple's decision to leave out record or file locking (which are essential for multi-user considerations)—until database people hounded them into it. Curiously, when Apple finally did specify the calls for record and file locking in System 3.2—they didn't implement them; they left it to third parties to do the implementation in their own software. "From here," Flash lamented, "you get into a whole list of subtle technical details that must be implemented by the network software and make life difficult in general."

The question of the hour is: was Apple's apparent contrariness based on actual canniness? Consider the fact that, early on, Apple took Centram under its wing (. . . said the spider to the fly), and got Centram's engineers to work jointly with Apple's engineers to produce an Apple Talk Session Protocol and an Apple Talk Filing Protocol. Who benefitted most from the alliance? According to Flash, " . . . Jobs was very impressed that we had actually created a Mac-to-Mac Network using the external file system that they had put in, and had gotten it working before the file system people at Apple . . . We already had an Alpha version of TOPS working. We simply traded our expertise in inter-operating system connectivity for the recognition we would receive from having co-authored specs that Apple was going to publish. The specs we jointly produced are definitely more refined than what they had. We did benefit somewhat, technically; but we also taught them some things."

I'll say. Now (writing this on Jan. 22) I hear that Apple engineers Mike Duhey and Gursharan Sidhu have supposedly developed an extraordinary product called *AppleShare* (codename 'Cupertino'), not only for the new Apple machines—but purportedly for the Plus and maybe even the 512E. This software is said to be transparent, may have a DA associated with it, and will probably require the user to reinitialize his/her hard disk with *AppleShare* software. *AppleShare* is supposed to be a lot like TOPS, but FASTER, using HFS extensively and with a new System and Finder to support it so that the Mac works more like the PC re: networking (i.e., has a 'skin' around it so that the networking software can grab a command before it goes into the operating system and evaluate it).

If you've seen pictures of a Mac Desktop File menu and wondered about an item called 'Get Privileges'—it's for AppleSharing. It allows you to designate who can and can't see certain files on your desk.

Another extraordinary thing that's been reported about *Appleshare* is: no dedicated Mac will be required, nor specific hard disk. Users will get a half dozen serialized disks for around $600-700.

Why did Apple do this? They say they felt they had to do it, because they were the only ones who could do it right. Of course they are! They're the only ones who can completely modify the System and Finder! But would they do that for Centram?

The Ghost of John Belushi: NO-0-0-0-0-0! In retrospect, I suspect that Apple was using Centram in two ways. They wanted to take advantage of what Centram knew—and they wanted Centram to bust their buttons delivering some semblance of Mac multi-usage to pacify the angry Mac masses. Meanwhile, Apple could take the time to reconnoiter, reconstruct, and re-create the Mac's system software until it could support true fileserving.

The moral of the story is (if I might rephrase the advice I gave above to buyers): future generations of third party Mac software developers—BEWARE! Apple has already publicly stated that it intends to enter the Mac software arena in a big way. I strongly advise against doing anything too ambitious with the Mac. You'll end up spending untold time and money on back-breaking development and marketing—only to have Apple breeze in at the last moment with their own superior product (made possible only by refinements in the Mac operating system). Don't you think life's a little too short for this kind of grief?

IMPORTANT APPLESHARE UPDATE!

The above was written just weeks before AppleShare *was released. The most glaring error is that* AppleShare *does require a dedicated Mac Plus and hard disk. Any Mac with 512K of memory or more can be connected to the network.* AppleShare *is fully integrated into the Macintosh, so using it is like using the* Chooser *desk accessory. It provides powerful security features; users control access to their own folders, allowing varying degrees of access to their coworkers. Apple claims that nearly all existing applications will run unmodified, and that new, enhanced products* (Microsoft Word 3.0 *is the one mentioned in the press release) will take advantage of the advanced features built into* AppleShare.

The product is the first to incorporate Apple's published standards for AppleTalk Filing Protocol (AFP), which should result in increasing numbers of network-based applications and hardware devices. Finally, AppleShare *will support files from multiple operating systems, including MS-DOS. The suggested retail price is $799.*

We'll have more information on this exciting new file server technology once we've gotten a chance to test it extensively in-house—Ed.

MACWORLD EXPO '87

By C. J. Weigand

Macworld Expo '87 was marked by enthusiasm, new product releases, and a groundswell of unsubstantiated rumor concerning future Apple unveilings. There were parties and press announcements galore. And there were people, lots of people, users from all parts of the country, all parts of the world. They converged on San Francisco for three days of business dealings and late-night revelry made possible by a single computing machine...the lowly yet glorious Macintosh. No other computer has ever generated so much evangelistic fervor. No other computer ever has so successfully captured the imagination of teenagers, engineers, college students, corporate presidents, hackers, and non-hackers alike. For three hectic days, the aisles of Moscone Center were jam-packed with users seeking new ways to improve productivity and achieve personal computing goals. The weather was perfect...the show was grand!

Macworld Expo '87 was unlike any previous Expo. When the Mac Plus gained entrance into boardrooms throughout corporate America in 1986, it forever shed its early flower-child image. At Macworld Expo '87, the T-shirt and tennis shoe crowds were largely gone. The 'in dress' had suddenly become the conservative business suit. Wherever you looked, cute little computer games and simple, fun programs had been displaced by serious Desktop Publishing and Desktop Engineering applications. Hardware, too, had increased greatly in sophistication. Practicality was the order of the day, and the main question on everybody's lips (heard over and over again) was, 'Can your product help me solve the following problem...?' (The answer was more often 'yes' than not.)

TAKEOVER NEWS

The most exciting news at the Expo came from press announcements about mergers and takeovers. At the kickoff Apple press conference, Letraset caught everyone by surprise with their announcement that they'd dropped *MacPublisher II (LetraPage)* and returned all product rights to the developer. They then announced that they'd signed with Manhattan Graphics for the worldwide distribution rights to *Ready,Set,Go! 3*. Rumor has it that Letraset is entering the Desktop Publishing arena in a big way, and the acquisition of *Ready,Set,Go! 3* is but the first step in a major campaign designed to unseat Aldus. At the Eddy awards banquet, Steven Bobker announced that *MacUser* had been sold to Ziff-Davis, thus bringing to a close the short reign of another great 'macazine.' With Ziff-Davis's clout and slick marketing skills, you can expect a head-to-head clash with *Macworld* to see which publication can acquire the most advertisers. Word also got around that *MACazine* had been taken over by Hart Graphics. This long-time, highly respected firm acquired *MACazine* in a deal made with former publisher Charles Abrams, thus ensuring *MACazine's* continued steady growth within a dynamically changing Macintosh marketplace. This is good news for you, the reader, and certainly not a small item of concern for *Macworld* and *MacUser* (it's generally recognized that *MACazine* already possesses the best overall content each month).

WHAT WAS HOT

Several products shared the spotlight at Macworld Expo '87. Chief among these was *Adobe Illustrator* from Adobe. This phenomenal PostScript product bridges the gap between computers and art. Intended primarily as an illustrator's tool, it gives the artist an electronic medium in which near museum-quality line drawings can be created. Absolute control over line stroke thicknesses means that, using *Adobe Illustrator*, a Macintosh, and a Linotronic 300, fine 'etchings' can be generated which approximate the quality of the most exquisitely rendered pen and ink drawings. *PageMaker 2.0* was also being shown in final Beta form, as was *Microsoft Word 3.0*. All three of these products will be optimized to work together, and a 'hot' feature will allow automatic, 'seamless' updating of source documents (and vice versa) when creating page layouts. *PageMaker 2.0* still has the look and feel of its original interface, but text handling has been greatly enhanced. Dictionary-based auto hyphenation is now included, all copy protection has been completely removed, and WYSIWYG printing has been dramatically improved.

Cricket Draw was finally available for purchase, and Cricket Software was doing a volume business. PostScript graphics for the LaserWriter are definitely hot. Another PostScript graphics product, this one scheduled for Springtime release, was *LaserPaint* from EDO Communications. *LaserPaint* looks to be an exceptionally impressive tool with amazing capabilities for creating customized PostScript output. It includes built-in drawing, painting, and text modules, and it can produce full color separations of your artwork. Nearby, Russ Gray from Devionics demonstrated *Magic Slate* and *MixMaster*, two products which let you create fascinating hard edge graphics from scratch, or customize full-page paint images using an assortment of intriguing special effects. The price of *Magic Slate* has been reduced to $39, and *MixMaster* is only $29. If you're a Mac artist or illustrator, or just use graphics in various desktop publishing endeavors, these two programs are worth having.

Across the room, Ann Arbor Softworks showed *FullWrite Professional* in pre-Alpha form. Touted as a 'Third Generation Word Processor,' *FullWrite Professional* will include spellchecking, hyphenation, outlining, automatic footnoting, auto-wrapping of text

around irregular images, editing of graphics, and dozens of other useful features. Large crowds gathered to see the demos, and the 'oohs' and 'aahs' were abundant. *Scoop*, formerly named *Solo* (and before that, *Spud*), was being demo'd by Target Software. It's a versatile program which combines the best of word processing, page layout, and draw-paint capabilities, all within a single, integrated application consisting of about 100K of Assembly Language. *Scoop* will be positioned to go head-to-head with *PageMaker*. Target Software also announced *Memorandum*, a slick desk accessory utility which lets you attach freeform notes to documents or individual spreadsheet cells. It looks like a product that would be particularly useful within a business environment. *Word Perfect* for the Mac was announced, but it was still months away from release. However, given its reputation in the IBM PC world, it could turn out to be a real contender in the emerging war among Macintosh word processors.

Silicon Beach Software attracted huge crowds with their demonstrations of *SuperPaint* and *Dark Castle*. In the short time they've been out, these programs have become enormously popular. It's rumored that Charlie Jackson is already hard at work on at least two new products. I caught a sneak preview, but was immediately sworn to secrecy...a vow I intend to keep lest I be abducted and confined for eternity to the inner regions of *Dark Castle*. I'll say only that both new products are definitely hot (Charlie had a tough time prying me away from his Mac), and that I'm eagerly looking forward to their release. Another 'hot' product was *MacPlaymate*, a Triple-X-rated animation by Mike Saenz (the artist for *Shatter Comics* and *ComicWorks*). It certainly caught the attention of San Francisco's Assistant DA. It seems that she was offended by what she saw (in San Francisco, of all places) and placed an immediate call to her boss. Things moved pretty fast then. Disks were confiscated and the San Francisco vice squad quickly surrounded the booth. After some discussion, it was finally agreed that no laws were actually being violated and Pegasus Productions could continue to sell *MacPlaymate* so long as minors were not permitted to view the demo or purchase the product. The Mac was turned around to face away from the aisles and a sign was put up with some appropriate words about having to be age 21 or older. However, where sales of *MacPlaymate* initially had been slow, once word about the raid got around the Expo floor, Pegasus Productions couldn't keep up with the sudden demand!

In the hardware department, probably the most innovative item proved to be the *MacBuffer LW* from Ergotron, a true external print buffer for the LaserWriter. What makes it so exceptional is its networking capabilities...perfect for the business environment where 'time is money.' It works with *PageMaker* as well as most other major software. A few aisles away, MacMemory introduced the TurboMax, a $1,299 performance accelerator for the Mac. It uses a new 16 Mhz 68000 processor that more than doubles the speed of the standard Mac Plus (while maintaining full compatibility with existing software). It also includes an additional 1.5MB of RAM. Mac Memory's popular *MaxSave* is built-in, an improved SCSI controller is included, and an optional 68881 math co-processor can be added to speed up heavy number crunching. MacMemory demo'd the TurboMax to capacity crowds using two Macs connected to a single mouse. One machine was a standard Mac Plus, the other had TurboMax installed. A single click of the mouse, and identical software ran simultaneously, with the TurboMax far outdistancing the standard Mac Plus in speed and performance. It was an impressive display. More unusual was the fact that the demos were conducted from atop the hood of a Hyundai automobile! A large sign on the windshield proclaimed, 'For the price of a *Prodigy 4*, you can have TurboMax and two *Excels*...Microsoft and a (slightly used) Hyundai.' The words in parentheses, 'slightly used,' were hastily added after Levco announced at the opening of the show that they had dropped the price of their Prodigy 4 by $2,000 (to $4,999). When MacMemory modified their sign, the Levco staff promptly donned buttons which asked, 'Would you buy a computer from a used car salesman?' Serious stuff, this marketing...

Levco also introduced two stripped-down versions of the Prodigy 4. Now you can get the same 68020 speed increase with the Prodigy Prime 1MB ($1,995) or the Prodigy Prime 2MB ($2,750). Recoverable RAM disk software is included, but a 68881 co-processor and optimized SCSI controller cost extra. On the floor, I ran into John Byrne from Ryad. Ryad is introducing a low-priced MacEngine line of memory upgrades which will include both 16 MHz 68000 (GT Series) and 16 MHz 68020 (Turbo Series) 'engines.' A 2MB 68020 Turbo upgrade with optional 68881 math co-processor is expected to sell for about $2,350. Over in the far corner of the room, Dove announced their Macintosh Plus 4H upgrade which gives you 4MB of RAM using the new 1MB CMOS chips for $1,999. It's apparent that competition in memory upgrades is heating up again, a fact which eventually could mean even lower product prices and a wider range of choices for the user.

MORE EXCITING PRODUCTS

C.Itoh introduced the Diskfolio, a cleverly designed, legal-size portfolio with a tablet on the right side and molded pockets containing four Rainbow diskettes on the left side. Its thin profile and attractive styling make it a winner, especially at $19.95. Innovative Technologies completely sold out of their new $79.95 Propellor Bags. The Propellor Bag is the slickest soft attache case I've yet seen. It has pockets for everything: disks, pens, papers, manuals, keys, etc. Rumor has it that several major Mac vendors are buying them for their salespersons. Speaking of bags, I/O Design introduced a well-constructed Mac Plus bag made of leather and Cordura twill. Called 'The Sovereign,' it's a real eye-catcher. Compucover also was selling

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the 'MACinBAG,' an all-leather carrying case for your Macintosh. It makes the perfect gift for the user who has everything, and it comes in natural brown or jet black. N^2 Products was offering low-cost custom cables for every user need. They had on hand a plentiful supply of hard-to-find SCSI cables and Mac Plus adaptors. N^2's cables are heavy duty, single-piece units with molded connectors. Very high quality. For further information, call (408) 434-6488.

John Baxter released the second book in his Desktop Publishing series. The title is *Macintosh Desktop Design*, and, unlike many similar publications, this one is full of sound advice and good tips. The approach throughout is conceptual, i.e., the 'hows, whys, and wherefores' of design excellence. *Verbum*, the new Quarterly Journal of Personal Computer Aesthetics, published by our own Michael Gosney, was a hit at the show. The Winter 1987 edition is must reading for users interested in computer-generated graphics and desktop publishing. Ray Heizer of the Excellent Exchange announced WorksXchange, a support network and clearing house for applications and templates for use with *Microsoft Works*. Several packages already are available. You can learn more about WorksXchange by calling (800) 225-6755.

Trapeze, a uniquely innovative spreadsheet, was finally released to an eager public. Exceptional free-formatting capability makes *Trapeze* a functional tool for financial and non-financial users alike. *Market Master*, a new product from Breakthrough Productions, looks promising for salesmen, entrepreneurs, business persons, marketers, consultants, etc. It's basically a database management aid for ensuring consistent follow-ups with clients. *MindWrite* from MindWork Software was formally introduced, and it looks to have been worth the wait. It's an exceptional word processor, one that fully integrates text and outlining functions to provide a flexible approach to structured document processing. It even allows you to save files in *MacWrite* format! *MindWrite* is intended for serious writers, yet it's priced at only $125, a real bargain.

Both Century Software and CasadyWare introduced a number of superb new laser fonts. Century's new 'Designer Series' sports uniform line widths and smooth curves in any font size. They also offer three new typefaces licensed from ITC. CasadyWare's *Fluent Laser Fonts* now boasts several fine looking script and sans serif typefaces. Altsys previewed *FONTastic Plus*, an advanced bitmap font editor which will support kerning pairs and fractional character widths. Additional features will include variable size FatBits, simultaneous multiple font editing, four levels of Undo, a background editing plane, and an easy-to-use integrated font mover. Altsys also released a 3-disk set of distinctive laser borders that are perfect for use with newsletters, flyers, ads, etc.

ADDITIONAL HARDWARE HIGHLIGHTS

SCSI hard drives were selling well. I talked with Frank Gabrielli, President of Relax Technology. Relax distributes a wide variety of peripherals, including several sizes of hard disks. Frank observed that his two biggest movers were the 20MB drives at the low end and the 150MB drives at the high end. This corresponds to the home user who wants to step up for the first time to the convenience of a hard disk, and the business person who needs to greatly expand existing online storage capacity. Many new drives were introduced at the show by a variety of vendors, and announcements of others were plentiful. Keep an eye out for PCPC's new 40MB ultra-quiet Mac-Bottom drive with its built-in Hayes-compatible modem. You might also want to check out the new DataFrame XP fault-tolerant line of drives from SuperMac Technology. Not only are they incredibly fast, but they come with software which allows data on the drives to remain intact despite failures that normally would cause a fatal disk crash. The new Bering Industries 20MB Bernoulli Drive with 5-1/4" removable 20MB cartridges looks very good too. The cartridges cost only $129 apiece, and they're ideal for situations requiring careful handling of classified data or proprietary information. At the end of the work day, simply remove the cartridge and lock it in a safe.

High resolution scanners were another item that drew a lot of interest. AST, Microtek, and Abaton all showed similar products. Only the software appeared to differ from unit to unit. DEST showed their new PC Scan Plus, their first entry into the Macintosh market. New Im-

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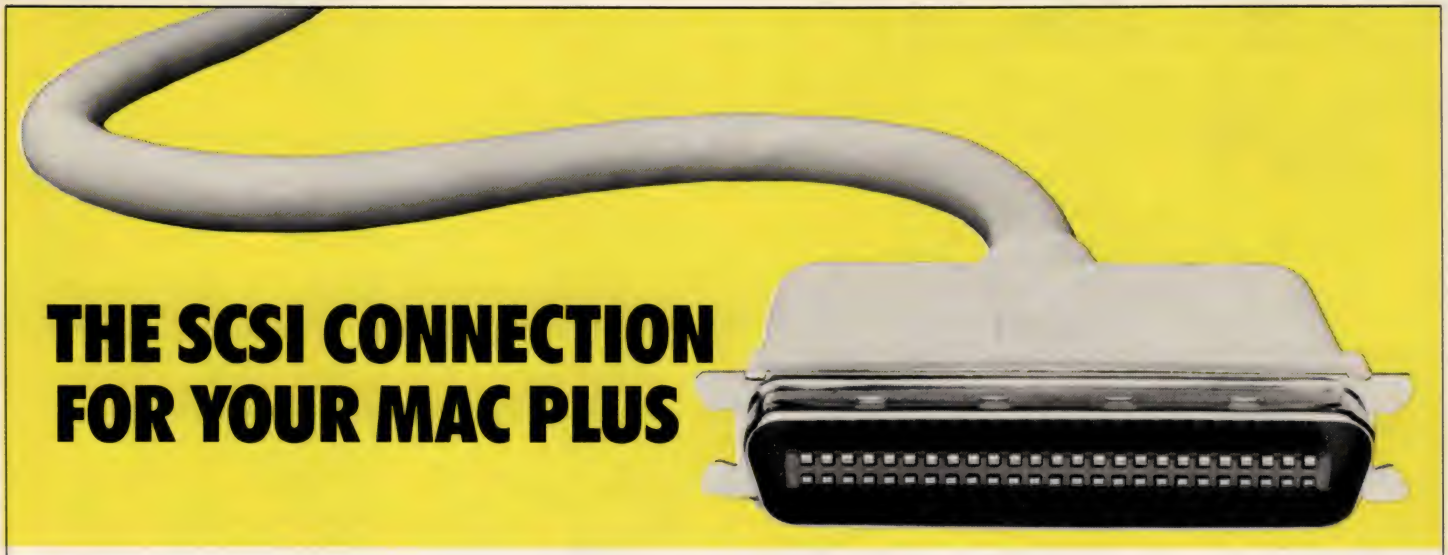
age Technology showed an impressive looking hi-res scanner called the MacScan. It seemed to perform equally as well as the others, but at about $1,000 less cost. New flat-top scanners were being introduced too, for use with delicate originals and books. Panamax announced the CoaxMAX, a new surge suppressor which is effective in eliminating powerline and coaxial cable disturbances. This type of suppressor is important for those individuals who use coaxial-fed monitors and telecommunications equipment with their Macs, and it's ideal for protecting digital TV's, sound systems, VCR's, etc. Uninterruptable power supplies also garnered a lot of attention at the show. They've come down considerably in price and are a wise investment for anyone who relies on their Mac for business. Both the Tower of Power from Power Director, Inc. and the MinuteMan Series from Para Systems appeared to be well designed units. Para Systems also has an inline load tester available at a nominal cost (about $20, I think) which lets you determine the proper size unit you'll need to handle a specific system configuration.

OTHER NEAT STUFF

Several new laser spoolers appeared, including an improved version of *LaserSpool* from MacAmerica, *SuperLaserSpool* from SuperMac, and *LaserSpeed* from Think Technologies. Each claims to work with all existing software, including *PageMaker*. International introduced *101 Macros for Excel*. And Software Power Company introduced *PowerDisk*, a convenient desk accessory cache that looks like it might be competition for *TurboCharger*. In the fun department, *Your Personal Poet* from Computer Poet Corporation lets you create greeting cards, complete with personalized 15-line poems. Each poem is automatically generated by the $9.95 program (no, that's not a typo). Definitely cute. Call (800) 422-POET for more information. Borland announced *Sidekick 2.0* for the Mac. Still priced at $99.95, the new version includes *Outlook*, a versatile outline processor, *MacPlan*, an integrated spreadsheet desk accessory (formerly *ClickOn Worksheet* from T/Maker), and XMODEM file transfer communications protocols which have been added to the existing MacTerm desk accessory. Don Brown of CE Software introduced *Disk Top*, a useful product that combines within one desk accessory the best features of about four or five separate desk accessories. It's designed to let you manage your disks and files from within your main application.

FormDesign from Clearview Software also looked interesting. It includes custom tools for quickly producing business forms, and it lets you restrict the type of data to be entered into any field. Its sister program, *FormMerge*, permits your Mac to act as an electronic typewriter for entering data directly into existing forms. High Performance Systems released *Stella for Business*, a significant enhancement to the original *Stella* modeling program. Model size is no longer limited, and all copy protection has been removed. Kent Marsh Limited, the publishers of *MacSafe*, announced *The NightWatch*, a password software which provides protection against unauthorized use of your system. This looks to be a well-designed product which will be welcomed wherever security is deemed important.

In the realm of clip art, *DrawArt 2* from Desktop Graphics was finally released. It contains more than 300 small images of the type requested by owners of Volume 1. All *DrawArt* images were created using *MacDraw* or other object-oriented graphic programs. Another collection built around object-oriented images is called *Compuset Clip Art Disk #1*. It was released in *PictureBase* format and shown at the Symmetry booth. GoldMind Publishing distributed *Cards for Special Occasions*, high quality clip art templates intended for use with *PageMaker*. Enzan-Hoshigumi drew a lot of attention for their two Japanese clip art collections *Scroll 1: 'Heaven'* and *Scroll 2: 'Earth.'* This is without doubt some of the finest clip art in existence for the Macintosh, and the accompanying manuals are delightful compendiums of information about oriental lore. Enzan-Hoshigumi also announced *MacCalligraphy*, a new graphic medium which 'simulates the expressive medium of ink and brush on paper.' *MacCalligraphy* looks like an extraordinary drawing tool that is sure to be heavily in demand upon its release. T/Maker was selling their new package, *ClickArt Business Image*, a gem of a



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collection consisting of business graphics, industrial symbols, abstract logos, and more. Dubl-Click Software released the first three volumes of their new *WetPaint* clip art collection. And finally, not to be outdone, Sunshine Graphics released six new disks, increasing to forty the total number of volumes in the *Sunshine Graphics Library*.

TOURING THE AISLES

The interest in Desktop Publishing was overwhelming. The newly formed National Association of Desktop Publishers was present on the floor, and they did a steady business signing up new members. This looks like a worthwhile organization, and further information about their purpose and goals can be obtained by calling (617) 437-6472. *Storyboarder* and *Scriptwriter*, being shown by American Intelliware, attracted the attention of corporate advertising agencies and film/video producers. Bree Communications was showing *Set & Send*, a professional typesetting software which automatically generates Compugraphic MCS typesetting codes directly from *Microsoft Word* documents.

CAD products were also popular and were being demonstrated by various vendors. Two principal packages of interest were *Pro CAD for Mac* from Micro CAD/CAM and *Easy Draft* from Bridgeport Engineering. Currently, *Pro CAD for Mac* is the leader in the field, although Easy Draft is undergoing extensive revision to make it more 'Mac like.' NewLine7 Graphics had a booth but they didn't show up. Their *NewStudio*, a 3D graphic design tool, is supposed to be pretty good, but no word on why they cancelled.

Several portable Macs were on display. All were impressive performers, but all were bulky, heavy, and prohibitively expensive. I'd like to know when someone will come out with a lightweight compact like the Radio Shack Tandy 200, but designed specifically to complement the Mac. Basic word processing and spreadsheet-style number crunching are all that's needed by the occasional or even the frequent traveler. Big, expensive, bulky, full-featured units are fine for corporate use, but they're certainly not for 'the rest of us.' Offer me a stripped-down functional unit for under $500, though, and I'd buy it in a flash! So would, I'm sure, a few hundred thousand other Mac owners....

The influence of the 'power' relational databases (*Double Helix* from Odesta Corporation and *Omnis 3 Plus* from Blyth Software) was evident at the show. Several vendors were offering *Omnis 3* development-based applications, and around every corner could be found another booth with business-solutions software of one type or another. At the back of the room, Hewlett-Packard was showing their line of Apple-compatible plotters and printers. Up near the front of the room, Living Videotext announced a free upgrade to *MORE* with the Undo feature we've all been waiting for. MacAmerica was selling an attractive calendar appointment book full of Mac-generated artwork. And Mainstay finally released *V.I.P.*, the highly touted Visual Interactive Programming language which promises to ease future development of complex programs. Their other new product, *MacFlow*, an automated flow chart designer, also drew a lot of user attention. Practical Computer Applications introduced *MacCourses* and *MacRacquetball*. *MacCourses* adds four additional golf courses to the ever-popular *MacGolf*, while *MacRacquetball* is the latest in a series of quality animation/sound games. Williams and Macias sold out of their super disk-labeling product, *myDiskLabeler*. Seems like everybody wants high-quality, custom laser labels on their disks.

The big screen makers were present, of course, and there was a quite a bit of interest shown in their products both by desktop publishers and by CAD users. Berkeley Systems, however, caught everyone by surprise with *Stepping Out*, a program which gives you big screen performance at a fraction of the cost. Solutions, Inc., the folks who brought you *Glue*, introduced *SmartScrap* and *The Clipper*, two new desk accessories you won't want to be without. *SmartScrap* replaces the standard Scrapbook with features that Apple should have provided in the first place, and *The Clipper* is a nice enhancement to the Clipboard. SmethersBarnes announced *Prototyper*, a unique application which allows you to model and test different user interfaces before you begin to write even a single line of code. If you're into software development, this utility may save you a lot of time and money.

THE PARTY CIRCUIT

Every convention, every exposition, every major gathering has its parties. Macworld Expo '87 was no exception. Most of the parties, unfortunately, were like dull home movies...people couldn't wait to sneak away from them. However, most people left one party only to hurry to the next one (it's the party you haven't been to yet that always looks the most promising). There were a lot of parties scheduled during Macworld Expo '87; indeed, more than could be taken in by any one person. And the competition was keen among party givers to put on the 'biggest bash.'

When Living Videotext's *MORE* won the 'Best Product of the Year' award, the presentation was made at an elegant sit-down dinner banquet hosted by *MacUser*, where gourmet food and fine company were the order of the evening (the acceptance speeches droned on forever, though). Living Videotext subsequently pulled out all the stops to show their appreciation. Without a doubt, the 'Best Party' nomination goes to them for an evening complete with balloons, drinks, loud music, and the largest number of attendees of any party at the show. Other notable parties deserving of honorable mention include those thrown by MacMemory (a lively event that helped to start the evening off right), LetraSet (serious drinking by more than a few of the guests...chauffeured stretch limousines, however, carefully returned you to your hotel, a definite touch of class), the MAUG party hosted by Chris Allen of Dreams of the Phoenix (an incredible spread of tasty food and rich desserts), the Redgate Top 100 Awards (standup cocktails and lots of socializing), and MindWork's after-the-show dinner (a refreshing change from the hustle and bustle of the preceding three days). None of the San Francisco parties, though, quite managed to outshine the memorable *MacUser* Dinner cruise held during the '86 Boston Macworld Expo, or even the '86 Macworld Rodeo and Barbecue held during the Dallas Macworld Expo. A year ago in San Francisco, Apple's gala dance party stole the limelight. If Apple had been able to time their new product announcements to coincide with this year's Macworld Expo, well, who knows...there might really have been something to celebrate!

AN OVERALL VIEW

A well-attended conference program featuring a full agenda of lectures and seminars by prominent industry leaders took place concurrently with the show. The primary focus appeared to be on Desktop Publishing, although Business, Education, and Engineering also had their moments. At the Apple Press Conference before the show, Sculley stated that the Macintosh market could be divided into three general categories: Artwork and Illustration, Page Layout, and Document Processing. He went on to say that 1987 promised the emergence of a fourth category: CAD and Presentation Graphics. These statements seemed to be confirmed by the types of products that attracted the most user interest on the floor and by the types of lectures and seminars that attracted the greatest attendance off the floor.

It's worth noting that the exposition was completely sold out of exhibitor spaces! More than 600 booths filled San Francisco's Moscone Convention Center, and record crowds packed the Center on all three days. And there was no 'tail off' of visitors near the end of the day. At the 6 p.m. closing time on all three days the Center was still jam packed with users. I heard more than one vendor comment that this was a show that could have easily been extended to four days. It was a big event all right, and even though I made an effort to see everything, there was still much that I missed. I can recall when you could hold all the available programs for the Mac in two hands: *MacPaint* in one hand and *MacWrite* in the other! Not any longer, though...times sure have changed. Just how important was this year's Macworld Expo? Well, even *InfoWorld* had a booth there! They went so far as to set up a small 'confessional' wherein you could reveal to Cringely all the hot scoop you may have been told in confidence (I agree it's a bit silly, but then that's to be expected from the IBM side of the industry).

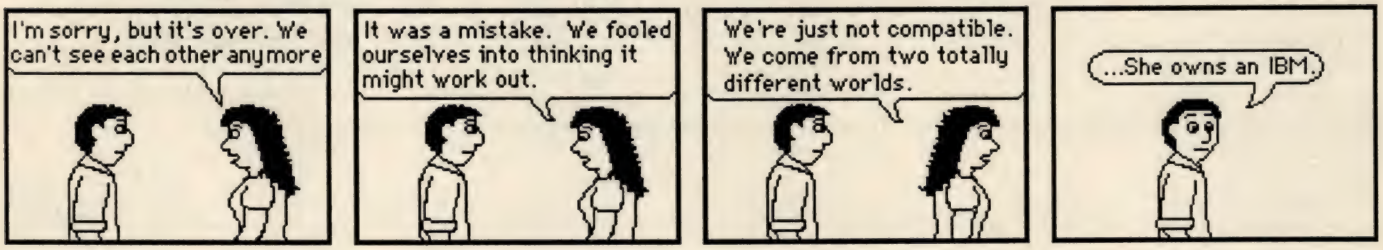
What lies ahead? Well, Bill Bates of *JustText* fame stated that he thought that future

product developments would rely increasingly on PostScript. He cautioned, however, that a full PS interpreter is needed for the Mac to adequately process files from different sources, and true WYSIWYG won't be possible until you can display PS documents directly on the screen. Robert Wells, the Publisher of *Australian Macworld*, commented that the overall future looked bright. He said that he'd been to all of the Macworld Expos and noted that overall professionalism had increased substantially. He emphasized that most of the users he'd encountered were serious about productivity, and that they saw the Macintosh as being critical to the continued growth of the personal computer industry.

PARTING REMARKS

Mid-afternoon on the final day of the show I cornered Mitch Hall in his office for a few quiet moments of conversation. Mitch has produced each of the successful Macworld Expos so far, and his opening comment typically was, "It's been a dynamite show!" More seriously, he went on to point out that the last two years have seen a general decline in the size and attendance of every other type of computer event, the single exception being the Macworld Expo, which this year saw a 40% *increase* in size over last year. For 1988 Mitch has the whole of Moscone Center reserved. Apparently the waiting list of vendors is already a long one, and it's expected that with the exciting Macintosh developments coming later this year, the '88 San Francisco show should be an incredible event. If you want to see and learn about what's really happening in the industry, attendance at a Macworld Expo is a must, and next year's Expo will have a lot to offer. First stop, though, Boston in August for yet another great show! Mark your calendars now, and I'll see you there....

MACTOON by J. D. Athens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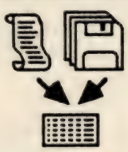

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By Roxane M. Schwabe

Roxane M. Schwabe is a partner and Editor-in-Chief of *The LisaTalk Report*, a quarterly Lisa/Mac XL support journal published by The NetWorkers.

It's 24 hours to press time for this *MACazine* 'Orphan Support' column and here I am at The Net Workers, at the last minute, madly clicking away at my Lisa/Mac XL keyboard. The NetWorkers, like 500 or so other exhibitors and thousands of attendees, have just returned from the January 1987 Macworld Exposition, San Francisco (January 8th through 10th). *Remember, due to* MACazine's *necessary deadlines, this contribution is made two months before publication.* Although our group faced only one hour's commute from San Francisco and we did not experience the fatigue of extensive travel, we are quite weary and worn from the activities which surrounded this large event. It was in light of the insane schedules and stresses we endured that I offered to relieve Lewis Guice of responsibility to this edition's 'Orphan Support' column—who better than the editor of *The Lisa Talk Report* to fill this untimely void?!

MACWORLD EXPO JANUARY 1987

This Macworld Expo was the first one held in San Francisco's Moscone Center, which is a much more beautiful and better-equipped convention hall than Brooks Hall, where Macworld was held in years past. I think all veteran Macworld exhibitors and attendees must have enjoyed this change, and certainly it was responsible, in part, for the jump in attendance from last year.

In the case of the Lisa/Mac XL, our staff and that of Dafax Processing Corp. (Malba, NY) featured direct Lisa/Mac XL support to attending Lisa/XL users. The visits of an estimated 300 Lisa.Mac XL users (most of whom were also owners) kept us all busy answering product support questions. It was clear that most users had come to love their machines, and they enjoyed sharing our mutual excitement about existing solutions and coming developments for the Lisa/Mac XL. Even non-Lisa passersby couldn't help but smile in awe of the Lisa/Mac XL's flexibility, particularly under *MacServe* on the Apple Talk network. Here they could witness, some for the first time, Lisas and Enhanced Macs (Attached to Jasmine and Peripheral Land 20MB external hard disks) truly sharing the Mac world, running such powerful applications as *OMNIS 3*, *MS Excel*, and *PageMaker*. (Some users who had obviously never heard of or seen Lisa even asked if the Lisa/XL was in fact the long-awaited 'open Mac!')

Of course, *The MACazine* was also there, including Editor-in-Chief Bob LeVitus, and former publisher Chuck Abrams. (Here's a big round of applause for the painstaking efforts of all at *The MACazine* on behalf of 'the rest of us.') Greetings and information were shared also with vendors who have been long-time Lisa/Mac XL supporters, including:

• Affinity MicroSystems, Inc. (*Tempo*/Mac) • AST Research, Inc. (RAMStak/Lisa memory board) • Brainpower, Inc. (*StatView 512 & DesignScope*/Mac) • Computer Shoppe (*Plots II CAD*/Lisa) • Infosphere, Inc. (XL/*MacServe*, AppleTalk LAN) • and pTERODACTYL Software (BASIC compilers/Lisa and Mac).

Other new or existing vendors who attended the show who have recently advertised Lisa/Mac XL-compatible products include:

• Bree Communications, Inc. (*Set & Send*/Mac to Compugraphic output) • ImageWorld, Inc. (MacMemories Series art diskettes) • Imagine Software (*Smart Alarms*) • Select Micro Systems (*MapMaker*) • Silicon Beach Software (*SuperPaint*) • Upgrade Technologics (MGMS CAD/Mac) • Williams & Macias (*Smart Labels* and *Laser Labels*) • and Zedcor, Inc. (*Z-Basic*/Mac).

I personally spent a lot of time on the show floor, diligently pursuing third parties who had not yet, to my knowledge, actively advertised Lisa/Mac XL compatibility. Surprisingly, a great number of vendors said their products were compatible but, until I'd approached them, hadn't really thought about addressing or supporting this user base. I was, however, able to obtain numerous demos and evaluation copies of software which I believe to be of interest to Lisa/Mac XL users, and my staff and I will be busily evaluating these products in the coming months. Although it's still too early to say for certain whether these products are compatible (we'll do our best to share the outcome of our investigations in the near future), following are listed some of the vendors who seemed supportive* and the applications which were of special interest to me:

Adobe Systems, Inc.

Adobe *Illustrator* (software combining control and fine detail of drawing with speed and mathematical precision of the computer; utilizes power of PostScript)

A.L.P. Systems, Inc.*

MacProof (spellchecker/Mac; were fairly certain about Mac XL compatibility)

Aldus Corporation

PageMaker version 2.0 (page composition program update still in development, but heralded to feature much-needed and exciting enhancements). Although the senior software engineer spent much time with me discussing bugs I am currently experiencing with version 1.0 (i.e., bombs which prevent successful opening of an existing document!), and he suggested Aldus is working to fix these bugs, I was later informed by another user who spoke with Aldus that they really don't believe version 2.0 will support the Mac XL! I'm waiting to hear from Aldus about this, but if this is true, I think this was a gross oversight on the senior software engineer not to say so!

Ann Arbor Softworks

FullWrite (third-generation document processor, still in development)

Meta Software Corp.*

Design (Excellent vertical market application for Systems Engineers which exhibits connectivity between objects, hierarchical refinements spanning multiple pages, object substructure, and Hypertext; were fairly certain about Mac XL compatibility)

Paragon Courseware*

DiskOrder (backup utility that is absolutely Mac XL compatible)

Tangent Technologies*

PC MacBridge, etc. (disk sharing software between Mac and IBM; Tangent is working with me to investigate compatibility of their full line of products)

To complete this article, I offer a list of Lisa/Mac XL user groups which have continued to support Lisa users for over one year.

LISA/XL USER GROUPS

Association of Apple 32 Users: Lisa SIG

A-32's Lisa SIG includes 300-400 active Lisa/XL owners. $20 membership per year plus $20 enrollment fee. Includes *Icon* club magazine seven times a year. Checks accepted are $45 and $25, respectively (US$ currency). Contact: Ken Silverman, P.O. Box 634, Santa Clara,

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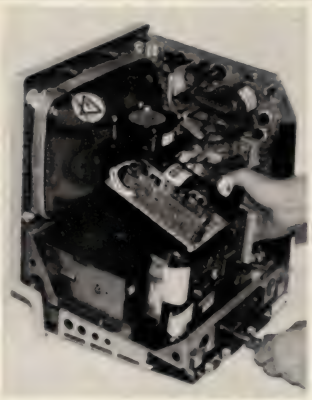

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- Daisy chain 6 more peripherals

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CA 95052, (408) 988-5594; Electronic BBS (408) 988-6693.

Lisa UNIX User Group

This is your group if you are interested in bringing to the Lisa: Writer's Workbench, Korn Shell, multiple process windows, access to AppleTalk and beyond, UNIX graphics, *troff* output to the LaserWriter and high-quality typesetting machines, and enhanced system performance or capacity for more users (with a 68020 card and 4 to 16 MB of RAM). Contact: Heidy & Wolfgang Naegeli, P.O. Box 1351, Oak Ridge, TN 37831, (615) 481-3276.

National X/Lisa Users Group

BBS use, which is highly recommended by the group, costs $20 per year. Operated by CSbbs Link, 24 hours each day, Monday through Saturday. Call any time and browse free for 15 minutes. If you like what you see, leave a message for the Sysop with your name, address, and password. BBS membership is validated upon Sysop's receipt of your fee. Special X/Lisa Calculator DA available free to members. Contact: Van R. Martin, P.O. Box 450767, Miami, FL 33145-0676. BBS Information: (305) 445-6481.

New York Macintosh Users Group: Lisa SIG

NYMUG Lisa SIG meets monthly in Manhattan to review, discuss, and share ideas and information. New York, New Jersey, and Connecticut Lisa/XL owners welcome. Contact: Samuel Neulinger, Chairman, (718) 746-8220.

Peninsula Lisa Users Group

PLUG is the first-ever organized and exclusive Lisa/Mac XL users group. Now meets on the second Wednesday of each month beginning at 6:15 p.m. (programs start at 6:45) at InfoMax-Opera Plaza, 601 Van Ness Ave., San Francisco, CA 94102. Regular Membership (receive both notes and notices) $22.00; Associate Membership (receive notes only) $18.00; Notices Only Membership $6.00. Contact: Joan D. Dickey, President/Co-founder, (415) 728-5462.

San Diego Mac XL/Lisa SIG

Meetings held first Wednesday of month, 6 p.m., UCSD Basic Science Bldg., Rm. 200. For more information, call: Keith Adair (619) 453-0616.

In closing, thanks for your support, and look forward to another helpful column next month with Lewis Guice. He'll be answering numerous questions and addressing responses received to the 'NAME ORPHAN SUPPORT' contest! If you have any questions, don't hesitate to call us at (415) 454-7607.

Correction: In the December 1986 issue of *MACazine*, Lewis Guice said that *DiskExpress* is a development of Altsys, while it is really a development of ALSoft, Inc. He apologizes for this confusion.

CLIP ART REVIEW

by Joost Romeu

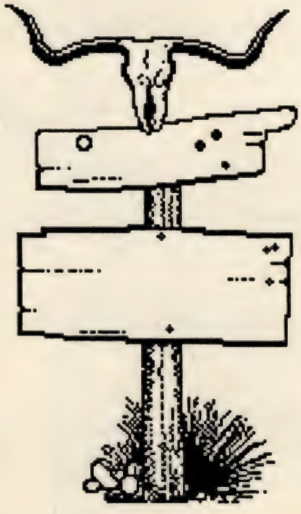
Desktop Art

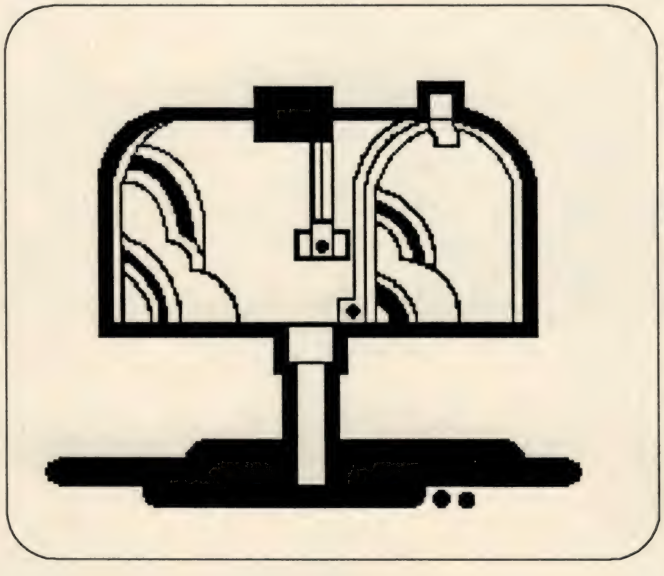
Dynamic Graphics, Inc.
6000 N. Forest Park, Inc.
Peoria, Illinois 61614–3592

Dynamic Graphics is a nationally known clip art supply house that is just getting its feet wet in the MAC clip art market. Known for the diversity of styles and imagery it offers, the company is planning to issue more specifically topical or seasonal (e.g., Christmas) clip art in the future.

Presently there are two packages: **Graphics and Symbols** and **Artfolio**.

Each contains two disks, A How-To Guide to Desktop Art, and a sheet indexing the work on disk. Each package contains 26 MacPaint files.





MEMORY UPGRADE ANNOUNCED

by Wendy Woulds

ViperWare Technology of Mountain View announced today that they will release a memory upgrade board for the Macintosh on a date that they promised to announce later.

ViperWare's memory board, Enhance™, was announced at the January Macworld Expo. The preliminary specs were impressive. It was to be shipped with two megabytes of contiguous memory, expandable to four, with an additional one-and-a-half meg RAM disk. But shipping was delayed for several reasons. ViperWare's major product, the VaporFrame™ hard disk, proved to be one of the leading SCSI drives for the Mac. As a startup Company, ViperWare's major challenge was meeting the demand for VaporFrame. The development of Enhance took a back seat.

To get the product to market, they tried to license the board to third parties. But they were stabbed in the back by Mac the Knife and nearly assimilated by Assimilation. So the Viper folk realized that they needed to take responsibility for getting the product out the door. The original design was modified so that ViperWare could meet their new revised shipping deadline.

MAIN FEATURES

The new board, which has been renamed VaporBoard™, boats some impressive capabilities. The VaporBoard does not place any additional demands on the Mac's power supply, it does not generate any additional heat, and (best of all) its operation is completley transparent to the user! In addition, the VaporBoard is compatible with all internal hard disks that clip on to the Mac's 68000 microprocessor. Installation doesn't even require the services of a technician. No fan is needed, but power users may purchase one if it helps make them feel superior.

INSTALLATION

Installation of the VaporBoard is much simpler than the installation of competitive memory upgrade boards, thanks to the kit that ViperWare includes. The user covers the Macintosh with the black cloth and taps the top of the Mac with the wand three times while wearing the bow tie and suspenders.

INDUSTRY REACTION

As expected, the response to ViperWare's announcement was very positive. Denice Mongoose plans to feature the VaporBoard in her next catalog. "We're hoping that people who sent in money for *VaporWrite*™ will be interested in this product," she explained. "We're also going to bundle *VaporWrite*™ and VaporBoard. The package should appeal to the customer who doesn't have much experience."

Mac's Headroom, host of TV's wildly successful *Affordable Computer Cookbook and Tutorial Talk Show*, was ecstatic. "They've got this great 512K emulator mode," he explained. "The way it works is that if you're using a program that doesn't run on an extra Fat Mac, the VaporBoard will run it in 512K emulation. And the user doesn't even have to do anything!" Headroom hopes that the VaporBoard will cut down on the number of complaints about system incompatibilities that plagued him as manager of ACP Technology, Priority One Electronics, and Affordable Computer.

A spokesperson for MacPuter Ware in Palo Alto hadn't heard about ViperWare's announcement when we asked her whether her store would be carrying the new board. "I'll have to ask someone before I let you know," she explained, "but Jim and Jeffrey have gone for the day, Derek's out of town, and Drew's hauling an 18-wheeler through Amarillo. Actually, we've been real busy the last few weeks."

She went on to explain that MacPuterWare was in the process of simplifying payment procedures for their regular customers. "When you come in the door, you can just toss your wallet and checkbook in that barrel behind the counter," she said. 'Or else you can just have your company forward your paycheck directly to us. We'll give you a plastic card. That'll be easier than having to sit here and count all this money," she added, pointing to the corner where several professional bean counters were also completely hidden by piles of hundred dollar bills.

When we tried to direct her attention back to the VaporBoard, she was more optimistic. "I'll leave a note for Jim, but I don't think there will be any problem. You know how we are. If there's enough demand, we'll carry it."

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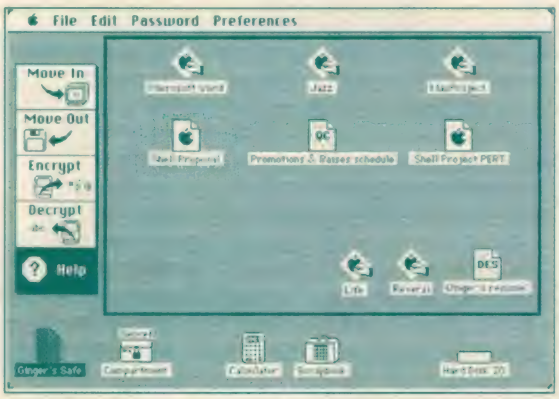

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SEEING DOUBLE

HERE COMES THE SIAMESE MAC

By Jim Reusing

*Another entry in our series of reader essays. If you've got something relating to the Mac on your mind, write an essay about it and send it to us. We will pay a princely $50.00 to readers whose essays are published. Just send us your essay on a disk (*MacWrite *or* MS Word*). Label the disk with your name and phone number and send it to:* THE MACazine Reader Essay Contest, P.O. Box 9802, No. 919, Austin, Texas 78766. *If we decide to publish your essay, we'll contact you within a few weeks. Sorry, but submissions cannot be returned.*

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  - -Stereo Finder
  - -*TwinWrite*
  - -*PaintTwice*
- Compatible with new DoubleImageWriter II
- Suggested list: $7,995.00 Dealer cost: $123.46

In an exclusive interview with a secret source at Apple Computer, I have learned important new information about an upcoming addition to the Macintosh line. Technical information and drawings were smuggled out of the Macintosh Design Center in Cupertino in an empty case from an old 400K disk drive. The deception worked, apparently, because many Apple personnel have recently begun using these cast-off drives as lunchboxes, pencil holders, and Kleenex dispensers.

At great personal risk, my worm at Apple has secured specific information about a new computer designed to make even the most dedicated IBM user look twice at the Macintosh. As Apple rushes to prepare for a mid-1987 release, I have learned the full story of the Macintosh Plus Plus.

The Macintosh Plus Plus (code named 'SiameseMac') had its beginning in a manufacturing error on the Macintosh Plus assembly line. When the conveyor belt malfunctioned, automated robots accidentally soldered, glued, and screwed two identical Mac Plus computers together. Supervisors were unable to separate the two computers (since no human had access to one of those funny screwdrivers you need to open the case). Weeks later, the SiameseMac was discovered by a programmer who was looking through the parts warehouse for components to construct a cable TV descrambler. SiameseMac was rescued and turned over to the Macintosh Design Team.

Apple engineers soon realized that by making a few cosmetic changes to the case, SiameseMac could become a key part of the Macintosh marketing program.

Mac Plus Plus is the first personal computer with twin screens and twin processors. Innovative software has been created to take full advantage of the twin-system architecture. The heart of the new system is the Stereo Finder. To keep the Desktop from becoming cluttered with files, Stereo Finder will instantly move any files not in use to the lower screen, as though you added a second Desktop to your electronic office. In the same way, long menus will scroll down to the lower screen. Similar double-scrolling is implemented in the new word processor, *TwinWrite*. Another option in *TwinWrite* will address the envelope on the lower screen as you write a letter on the upper screen. Also, *TwinWrite* can create two versions of any document: one positive in tone, the other negative. This automatic option will be a great help to indecisive people.

The Mac Plus Plus requires System 3.2 + 3.2 which allows multi-tasking and multi-user operation. A new file management system, the Bicameral File System (BFS), is incorporated in the new System to manage dual screen functions. BFS is based on the United States Congress. All operations begin on the upper screen (Senate), and progress to the lower screen (House of Representatives). Information on the two screens can be combined by using a new File menu command, CAUCUS.

Also included with the Mac Plus Plus is *PaintTwice*, an enhanced version of *MacPaint*. *PaintTwice* can double the usual resolution on the bit-mapped screen by selecting the 'Second Coat of Paint' option. *PaintTwice* can also produce true 3-dimensional images in the two-screen mode. The results are spectacular, though you have to turn the computer on its side and wear special 3-D glasses to combine the images from the two screens.

To complement the Mac Plus Plus, Apple is introducing the new DoubleImageWriter II. The new printer works at double the speed of previous models by incorporating two bi-directional print heads which run in opposite directions. The DoubleImageWriter can print on two different sheets of paper simultaneously to produce an original and a carbon copy.

Macintosh Plus Plus will be introduced with an entirely new advertising campaign. Each TV ad features a pair of identical twins touting the Plus Plus as 'the computer for the both of us.' Ads in Yuppie-oriented magazines will highlight the versatility of the new machine using the slogan, 'Get Twice As Much Mac At Three Times The Price.' Apple will feature the Plus Plus's dual keyboards in special ads for ambidextrous people and pianists.

The Macintosh Plus Plus has a suggested list price of $7,995 (Dealer cost: $123.46). Apple hasn't forgotten owners of Mac 128, Mac 512, and Mac Plus computers. An upgrade kit for any previous Macintosh model is also available. The upgrade kit consists of a second screen and disk drive which mount securely on top of the original Mac with velcro fasteners. The upgrade has a list price of $7,994.00 for Macs with all original Apple boards, and $15,995.00 for computers with any kind of third-party upgrade.

COMING NEXT MONTH

An inside look at QuadraMac, the rumored 4-channel, 4-screen computer for 360-degree surround computing!

About the author: Jim Reusing could have been a useful and productive member of society. Instead, he writes about mythical Macintosh products (some of which seem more practical than the genuine article). Contact Jim on CompuServe (70375,275) or GEnie (J. REUSING).

MAC ENTERTAINMENT WITH A MILITARY THEME

By Arnie Katz

Action-oriented contests have gotten the lion's share of the space in recent installments of this column. Good ones had been quite rare, and some of the excellent new titles demanded attention in these pages.

This month, it's back to basics. Brain games remain the staple of Macintosh entertainment, so I'll be covering strategy and adventure games this month and next.

Both the capabilities of the system and the demographics of the ownership audience are skewed toward software which tests the intellect more than the reflexes. The Macintosh crunches data better than it presents and moves powerful on-screen visuals. Lack of color is another strike against the Macintosh as a home arcade.

Macintosh owners are, as a group, relatively mature and intellectual. They're used to getting a lot of work out of their computers, and tend to favor entertainment software products which seem to be 'doing something.'

This time around, we've got a trio of games with a martial air about them. But, as you'll see, that's about all they have in common!

The title of *North Atlantic Raider '86* shows the pitfalls of setting a 'what if computer wargame in the near future. The year has already come and gone without a major clash between N.A.T.O. and Soviet forces such as this Gary Grigsby design describes.

The anomaly doesn't dim this simulation's appeal. One or two armchair generals have a chance to explore the strategic and tactical possibilities of a land-sea-air-submarine engagement in the North Atlantic without shedding one drop of human blood.

The disk contains four scenarios, two mini-games, and two full-length campaigns. Each turn represents 12 hours of real time. The longest version, which chronicles the full scope of this hypothetical confrontation, could require 252 turns. The shorter one runs 122 turns. Even though rounds proceed rapidly and games-in-progress can be saved to a formatted disk, the simulation of the whole battle (September 7-December 31) could easily fill 20 hours.

Thankfully, the mini-games are much briefer. The scenario which simulates the invasion of Iceland lasts 20 turns, while the convoy operation is only 12 turns. The mini-games use the same rules as the campaigns, but they are narrower in scope.

North Atlantic '86 is played on a grid map of the region of the Atlantic Ocean between Europe and Greenland. The documentation package includes two copies of the map, which is also part of the main on-screen display, for the players' convenience.

A human must control the NATO forces, while the Soviets can be directed either by another flesh-and-blood gamer or the artificial intelligence module of the program. In head-to-head contests, each participant must turn away from the screen while the opponent enters commands. The robot player's skill is adjustable prior to the start of the battle.

North Atlantic '86 plays like what it is, a traditional wargame transported to the computer. The Macintosh serves as the referee, tabulator, and combat adjudicator. It should especially appeal to wargamers who like long, operational-level wargames, though the mini-games are also stimulating.

Patton vs. Rommel (Electronic Arts), on the other hand, is anything but standard-issue military simulation. Chris Crawford, who revolutionized wargaming on the 8-bit microcomputer with *Eastern Front*, has now done the same for 16-bit systems.

This one- or two-player game is based on 'Operation Cobra,' a World War II Allied offensive which broke out of the Normandy Beach area into the heart of occupied France. A solitaire gamer can play either side against a computerized opponent, or just sit back and watch the machine direct both combatants.

An army gains points for eliminating rival troops and holding key towns. Casualties and enemy capture of towns reduces the score. A positive number indicates that the Allies are winning, while a negative total means that Germany has the advantage.

The detailed map of the terrain lends a note of authenticity to the proceedings. Black symbols within white squares denote Allied units, while the reverse combination marks German troops.

A box in the lower left corner shows the date, time, weather, and score. Each turn is equivalent to 24 hours of real time.

The string of five icons along the left edge of the map provides access to data about the forces involved. Clicking an icon changes the unit markers on the map from directional arrows to symbols, which permits players to study both friendly and enemy formations at a glance.

For instance, pushing the picture of a crack causes each division on the battlefield to display a visual rating of its current morale. A calm and rested division is far less likely to dissolve during the heat of an engagement than one which is already shaky from earlier combat.

Commanders issue orders with the mouse. The player first clicks a unit to call up its information box. This details the number of men and tanks in the formation and how many of each are ready to fight.

The player moves the on-screen cursor to the desired destination and hits the button to convey the order. The unit then demonstrates how it intends to move in response to the command. Proposed movement can be broken into several shorter instructions in situations in which that is easier. Moving a friendly unit into the 'zone of control' of a foe initiates com-

bat. Mouse-selectable icons within the info box let a player rescind all or part of an order to that unit and call in an air strike. Removing a data box from the screen (in the usual Macintosh manner) ends the order phase.

When both armies have received their orders, the program executes all movement and combat. The sound of gunfire and the flash of targets makes this phase of the game lively, if occasionally confusing. Sometimes attacks occur so rapidly that it's hard to catch every exchange of fire.

A player can make changes in the midst of combat by pressing any key. This freezes the game so that the order-giving procedure may temporarily resume. A last-minute adjustment sometimes turns the tide of battle.

Each side has another resource, the commentary of General Patton and Field Marshal Rommel. At the end of each complete turn, each of these military geniuses imparts a bit of wisdom to help the novice tactician. Computerists who don't want the expert heckling can turn off this feature before the first gun booms.

Patton vs. Rommel is a landmark in computerized wargaming. Crawford's format for military simulations recognizes the importance of including lots of detail about unit strengths, terrain effects, and such without damaging playability. If *Patton vs. Rommel* were a general, they'd give it a tickertape parade down Broadway.

If gaming a famous World War II battle or the outbreak of the next major conflict becomes too great a mental strain, relax with *Battle Stations!* (TimeLine Ltd.). Everyone in the family can learn this computerized version of the venerable 'battleship' in a matter of minutes and enjoy a simple test of logical deduction and intuition.

For those who have never played this favorite paper-and-pencil pastime of high school study halls everywhere, it is a battle between elements of two fleets. The admirals deploy ships on a playfield divided into squares hidden from the rival player and fire shots at the other's grid. A hit damages the vessel it strikes, and those which exhaust their defensive capabilities slide beneath the waves. Losing ships decreases the number of shots in the fleet's next volley.

Battle Stations! embellishes its theme with some appealing flourishes, including good audiovisual effects, variable skill levels for the computerized opponents, and deadly mines. The blaring horn and crystal clear voice synthesis of the opening are particularly satisfying. It's too bad that the design team didn't pursue this line of development and elaborate the original concept with lots of options and variant rules.

Simplicity is the biggest defect of *Battle Stations!* Youngsters may not be troubled by its lack of complexity and sophistication, but a few rounds of play could well exhaust the interest of more mature computerists. *A stripped-down version of* Battle Stations! *is featured in this issue's* Softstrip of the month—*Ed.*

AREA FILLS

by Joost Romeu

A DIFFERENT APPROACH

Last year I reviewed *PictureBase*™, a graphic image indexer. This product satisfied such a great need in the Macintosh graphics community that many of the clip art companies have since marketed their files in *PictureBase* format.

Graphidex, a program from Brainpower, performs a similar function. But it differs from *PictureBase* in approach as well as philosophy. The primary difference between *Graphidex* and *PictureBase* is that *Graphidex* does not require one to newly create a separate graphics file in order to database images. Instead, it creates an index of image names and disk locations through which desired images can be recalled. Because *Graphidex* remembers the index location, only the indexing file, a small accumulation of text, need reside on the main disk drive.1

Graphidex consists of an application through which one performs the indexing, and a desk accessory through which one accesses and performs minor surgery on particular selections.

GRAPHIDEX THE APPLICATION (FIGURE 1)

INDEXING IMAGES: FONT OR PICTURE INDEX?

The *Graphidex* application can index pictures in an index file, or copy those pictures into a font file that can be installed in the System and later accessed as keyboard characters. In order to reduce memory strain and allow faster index access, small indexes can be initially created and merged later. The manual provides informative tips on disk space management as well as index organization techniques.

FONT INDEX (PICTURES AS KEYSTROKES)

Although a Macintosh font can contain around 230 characters at up to a maximum height of 127 points, the total memory used by a font is limited; therefore, using *Graphidex* to save a large number of images as font characters should not be attempted unless one intends to use them at 50 points or below. Regular, Option, and Shift/Option font inclusions are allowed. This 'keyboard depth' can be utilized for showing certain images in different poses or contexts. Frequently used symbols are obvious candidates for font indexes.

PICTURE INDEX (FROM DISK TO DOCUMENT TO IMAGE)

An index file (often the name of the floppy upon which the images are stored) can be subdivided into 500 documents, each one containing up to 500 pictures. Each picture has a name. Image names in *Graphidex* can be up to 63 characters in length. *Graphidex* can associate one or more names with every picture.

There are two ways to name an image. One may enter the picture name (9 pt. plain Monaco) into the document itself under each picture and have *Graphidex* read these names, or type the names into the *Graphidex* indexer directly.

One of the difficulties with indexing graphics in *PictureBase* is the immense amount of work required in outlining each image using the restrictively rectangular selection marquees. *Graphidex* will search a document, locate the pictures, and (if they are available and in correct typestyle and size) automatically read their names. Though one is freed of having to construct a rectangular border, care must be taken if one is going to use this time-saving option. Because the free search looks for a 'free white space' region surrounding each image, it is important that neighboring images not fall within this white space or the two images will be interpreted as one.

Free space can be specified as 3, 5, 10, or 20 pixels. Choosing the free space is a matter of considering image location on the document *as well as* areas of white space, which may be embedded within a particular image.

If *Graphidex* cannot find a name beneath a picture, it will stop the search operations temporarily in order to allow you to fill in a name. One or more names may be typed in. Multiple names need to be separated by a comma. Each name is alphabetized and entered into the picture name list. Entering a carriage return when *Graphidex* requests a name causes the application to skip that picture.

One can index pictures in a document any number of times. *Graphidex* will remember the document name and add pictures indexed in the new search to that same document. This handy option allows one to get all the imagery in a document using the FREE FORMAT option by executing multiple searches at different free space settings.

One can bring up multiple document windows in the searching process. *MacDraw* images must be Grouped to be recognized as images. Nested groups (groups within groups) are

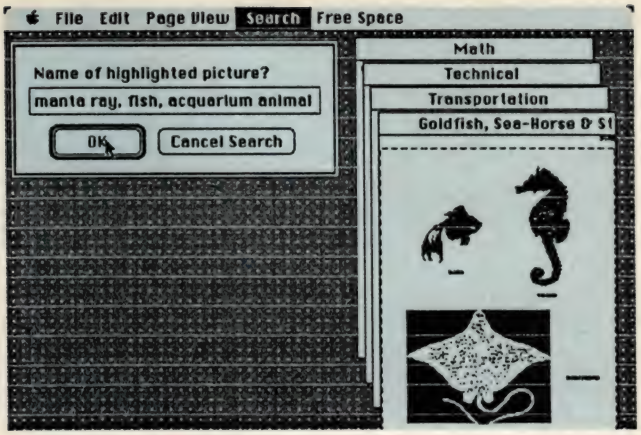

Figure 1

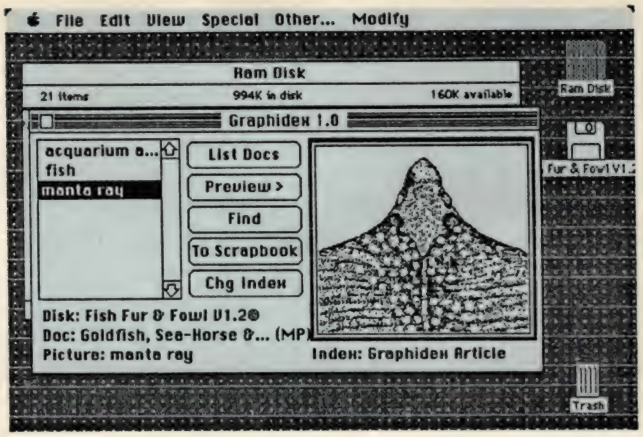

Figure 2

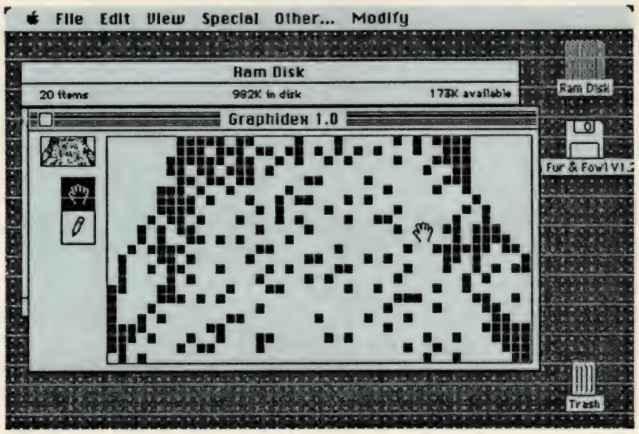

Figure 3

not recognized as separate images. To facilitate index maintenance, *Graphidex* can print an index by Picture, Document, or Disk.

ONE PICTURE—ENTERING IMAGES ONE BY ONE

ONE PICTURE is the selection technique we have become accustomed to with *PictureBase*. *Graphidex*, however, allows selection by polygon as well as selection rectangle. Surrounding an image causes *Graphidex* to take everything in that area as one picture (with naming conventions same as in FREE FORMAT). This only works with *MacPaint* format images.

ONE PICTURE SHAVE is a variation on that theme which strips all white space from around the selected image.

If the small window showing the full page of graphic images is too small to pick out each image, the window can be upped one size (a fully resizeable window would be a better option).

GRAPHIDEX THE DESK ACCESSORY (FIGURE 2)

The powerful search/indexing capabilities of *Graphidex* would be of little use if those images could not be easily accessed. Because *Graphidex* is a desk accessory as well as indexing application, graphic image libraries can be called up, copied directly into the Clipboard and Scrapbook, and pasted into an application without leaving the program. One or more images can be chosen from a list and saved into the Scrapbook.

The *Graphidex* window is small but complete. The leftmost window displays documents. Double-clicking a document brings up an alphabetical listing of the picture names in that file. Although up to 63 characters can be associated with each picture, only 12 characters can be viewed in the small name window[2], so it is important that the user insure that the first part of the Picture Name contains the most important identifying information. If a particular image has been given more than one name, both of the associated names will appear in the list. If a number of images have been given the same name, that name will be repeated in the list. Additional variety can be provided by changing the case of LeTtErS in the names.

If the desired picture cannot be directly located, an exact or partial name search can be implemented.

CHANGES AND DELETIONS

Both individual pictures and entire documents can be deleted from an index. Do not rename disks. Though it will search through the renamed disk and find the picture in question, *Graphidex* will always ask for that disk as originally named. Picture Names can be easily changed.

IMAGE MODIFICATION (FIGURE 3)

Not content to merely catalogue images, *Graphidex* provides impressive image modification capabilities. They are: Invert, Border, Flip Horizontal and Vertical, Rotate and Rotate 90°, Resize, and FatBits. ALL CHANGES PERFORMED IN IMAGE MODIFICATION APPLY ONLY TEMPORARILY. They do not change the indexed image. Of course, it is important to remember that bitmap images rotated in other than 90° shifts will experience distortions. Successive resizings, submitted to FatBits, allows access to the image on different scales.

In FatBits[3] one can make changes to the picture with only a pencil and movement hand[4].

SUMMARY

The worst thing about dealing with graphic images is the time required to submit them to some sort of database procedure. *Graphidex's* FREE FORMAT monumentally cuts the time

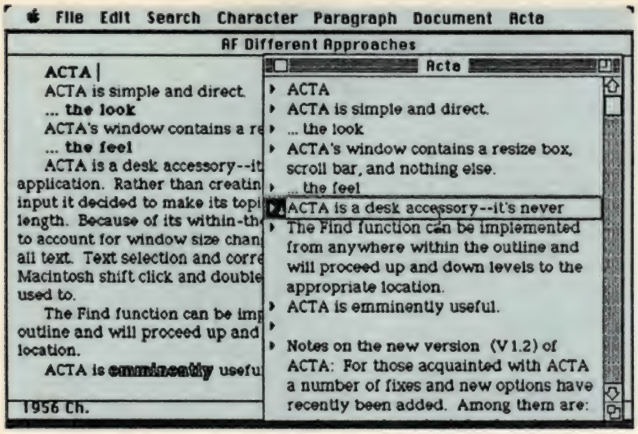
File Edit Search Character Paragraph Document Acta
AF Different Approaches
ACTA
ACTA is simple and direct.
... the look
ACTA's window contains a re
... the feel
ACTA is a desk accessory--it
application. Rather than creatin
input it decided to make its topi
length. Because of its within-th
to account for window size chan
all text. Text selection and corre
Macintosh shift click and double
used to.
The Find function can be imp
outline and will proceed up and
location.
ACTA is eminently usefu
1956 Ch.
Acta
ACTA
ACTA is simple and direct.
... the look
ACTA's window contains a resize box,
scroll bar, and nothing else.
... the feel
ACTA is a desk accessory--it's never
The Find function can be implemented
from anywhere within the outline and
will proceed up and down levels to the
appropriate location.
ACTA is emminently useful.
Notes on the new version (V1.2) of
ACTA: For those acquainted with ACTA
a number of fixes and new options have
recently been added. Among them are:

Figure 4

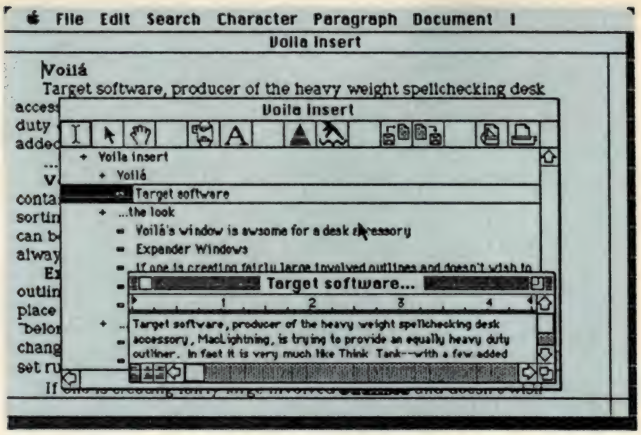
File Edit Search Character Paragraph Document
Voila Insert
Voilá
Target software, producer of the heavy weight spellchecking desk
Voila Insert
Voila Insert
Voilá
Target software
...the look
Voilá's window is awsome for a desk accessory
Expander Windows
Target software...
Target software, producer of the heavy weight spellchecking desk
accessory, MacLightning, is trying to provide an equally heavy duty

Figure 5

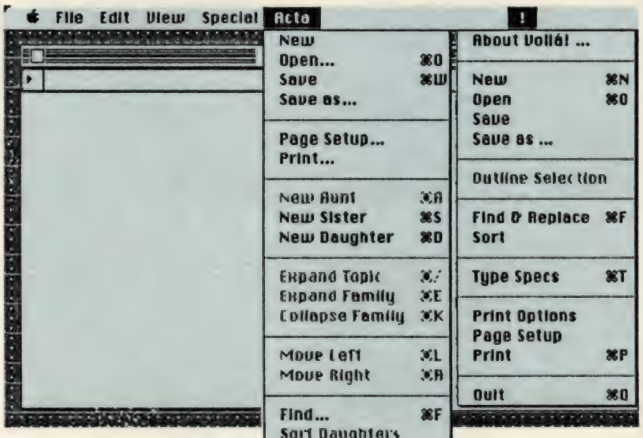

Figure 6

required to index graphic images. Trying the FREE FORMAT option on a number of clip art documents, I was pleased to find the process of getting the images into the database taking only a matter of minutes.

Graphidex's ability to ONE PICTURE select by polygon as well as selection rectangle is a long overdue selection capability which should be adopted (along with the lasso and selection marquees) by *PictureBase*, ThunderScan, and bitmap graphics applications.

Graphidex's image modification procedures are thoughtful additions. It is often necessary to flip or invert an image so that it fits properly into a particular application, and having a resize capability at hand is invaluable. However, a window ruler would be helpful to determine the exact size of an image being viewed or resized.

Interestingly, a bitmap image resized to larger than full page size, (though not available to *FullPaint* or *SuperPaint*, which are both restricted to 8.5" x 11" size) can be completely pasted into an MS *Word* document.

P.S. I almost forgot. *Graphidex* comes with a useful one-disk art library to get you started.

THE FINAL WORD

The final word on graphic indexers is not yet in. A major requirement of graphic organization applications will be their capability to save PostScript images. Although most of the work being done has been in *MacDraw* format, there will be a greater call for PostScript imagery in the future because of its higher resolution and the greater availability of laser printers. The indexer which provides PostScript as well as bitmap and PICT (*MacDraw*) formats is going to finally be the indexer of choice.

SPOT FILLS

Acta v.1.2: An exemplary desk accessory (Figure 4). *Acta* is simple and direct. Its resizeable window contains a resize box, scroll bar, and nothing else. *Acta* is a desk accessory—it never aspired to be a bigtime application. Its menu contains all its commands and keyboard calls—everything needed to generate and print outlines. Rather than creating a separate window for paragraph input (as *ThinkTank* and *Voila*), its topics are capable of supporting text of any length. Recognizing that, as a DA, it has to accommodate radical window size changes, *Acta* automatically word wraps all text. Text selection and correction is governed by the Macintosh shift-click and double-click techniques we are used to. The Find function can be implemented from anywhere within the outline and will proceed up and down from topics to subtopic to topic...

The only change you will notice in version 1.2 (Figure 5) is that the menu now scrolls to show a few improvements. These include:

- when moving a topic by dragging, the outline will scroll up or down depending on whether you bring the topic to the top or bottom of the window
- option clicking on a topic now shrinks pictures (to their top 16 pixels) as well as text
- a topic can be 'split' into two separate topics
- Smart Paste: text data from other applications can be imported through the Clipboard into *Acta*. *Acta* interprets each carriage return as another topic (lines beginning with tabs or spaces will be indented)
- one can directly print outlines

Acta is an 'accessory' in the best sense of the word. It retains a subordinate—humble, if you will—position relative to the main application being run. Its window is inobtrusive and its command key structure evident. There is never any question that its appearance or function is attempting to upstage the operation or appearance of the base program. Leaving *Acta* by clicking on the base application removes the outline window as well as its menu insertion. Clicking on an edge of the outline window or recalling *Acta* from under the apple brings both to the fore again.

These features, combined with practically infinite length topics, word wrap, unobstructed searches, toggled functions, and uncomplicated editing procedures make this an exemplary desk accessory.

Imagine...Professional color for your MAC!

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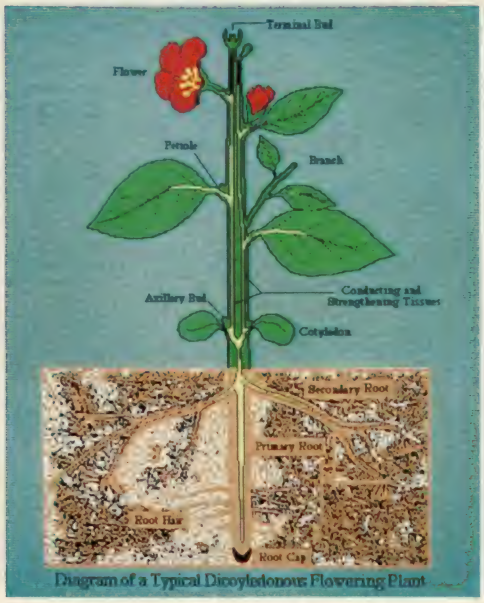

Diagram of a Typical Dicotyledonous Flowering Plant

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Imagine...compatibility with your favorite Macintosh business software graphics package & ALL existing Macintosh black and white artwork.

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DEALERS INQUIRIES WELCOME

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I'd still like to see an outliner with multiple outline windows[5], and provisions for full text editing[6]. Yet I appreciate the fact that at a time when desk accessories have tended to try and challenge the applications to which they should be acting as subordinates that *Acta* resisted the temptation and remained an outliner for those of us who need just an outliner.

Magic Slate, a unique graphics application which I reviewed in an earlier AREA FILLS, has been released in version 4.0. The new version works well on the Mac Plus. New features include added special effects capabilities, menu rearrangement, the ability to use desk accessories (provided you've saved the image you're working on), and a 'stroller' function, which allows one to move through the paint document.

Magic Slate is the only graphics program I know of which provides oscillating drawing tools—a masterful recognition and utilization of the computer's time/space presence/identity. It's an exciting use of realtime which has always been available through the computer, yet a concept which few have appreciated and even fewer understand.

Though every version of this program is beset with minor incompatibilities, and working with it seems at times to have the feeling of traveling through Oz, *Magic Slate* is still a refreshingly unique approach to bitmap computer graphics and creativity. (Note: Russ Grey is working on an interesting complementary program, *Mixmaster*, in which images, submitted to a 'variegator,' can be tweaked in more unusual ways.)

THE PRINT SHOP

The Print Shop

Packaged in a bright yellow box and accompanied by colorful (red) computer paper and accompanying envelopes (two weeks too late for Christmas—sigh), *The Print Shop* is an inviting software package. Though not a graphics or pagemaking 'heavy,' *Print Shop* is a combination graphics indexer/document organizer perfectly suited for simply and quickly creating greeting cards, banners, signs, or letterheads (just the letterhead portion).

Everything is set up for the user. You don't have to worry about where or how to place text and images on the page so as to successfully compose a folded greeting card. Instead, you bring up the GREETING CARD screen, which immediately brings you to the portion of the greeting card (front or inside) you need to work on, and waits for you to specify borders and credit lines, and, enter and make modifications (alignment, typestyle, spacing, font, etc.) to the text. In the SELECT GRAPHICS screen, one can select the graphic images which will be included in the editing and layout screens. The GRAPHIC EDITOR screen allows one to work on images using most of the *MacPaint* tools and patterns, as well as invert and flip. The GRAPHIC LAYOUT screen allows one to take graphic images in various preset sizes and place them on the page—either dragging the image into place, overlaying images, or tiling/staggering multiple images. Finally, there is a preview screen to view the masterpiece.

Print Shop is so easy to use that it's elusive. The image manipulation, formatting, and cataloguing capabilities which are available are actually quite complete for the person who wants to generate simple bitmap designs in a minimum amount of time. *Print Shop* may be the perfect way for the young and young at heart to avoid dealing with page layout and image composition technicalities when what they really want to do is just express their 'Thank you,' 'Welcome Home,' 'I love you,' 'Thinking of you...,' etc. sentiments.

Do you know how to release a desk accessory slot, get a screen blanker (that works without interfering with printing or telecommunications), and install an electronic analog clock, all in one swell foop? Drag *AutoBlack* into your System Folder. You must change the name to 'MacsBug,' and then it will automatically load every time you use that disk to start up your Mac. It's available as Shareware.

Other...3.05 is the latest version of *Other...* It installs up to 8 extra DA's on the menu, but not without some heart-stopping 'renumbering' gymnastics. Nonetheless, I have had no problems with it. It's also Shareware.

PageMaker has long been admired for its Desktop Publishing capabilities. Now Aldus Corp. is providing *Designs for Newsletters*, the first of a *PageMaker Portfolio*, a series of desktop publishing templates. This two-disk set of tutorials and twenty-one templates (seven major designs plus two variations of each) enables an average *PageMaker* user to learn more about basic compositional issues involved in designing a newsletter. Practical as well as educational, one can immediately create effective newsletters by pasting material into the available templates and making slight changes to satisfy his/her particular site requirements. The documentation is a handsome as well as interesting introduction to the aesthetics of newsletter design.

Graphidex
BrainPower, Inc.
24009 Ventura Blvd.
Calabasas, CA 91302
(818) 884-6911
$124.95

Acta
Symmetry Corp.
761 E University Dr. (Ste. C)
Mesa, AZ 85203
(602) 844-2199
$59.95

Magic Slate & Mixmaster
Devionics
P.O. Box 2126
Covina, CA 91722
$99.00

AutoBlack
Shareware

Other...3.05
Shareware

Designs for Newsletters
Aldus Corp.
411 First Ave. South, Ste. 200
Seattle, WA 98104
(206) 622-5500
$79.00

1 On the other hand, since *Graphidex* does not actually contain the images it is indexing, it may not be as useful as *PictureBase* for accessing/transporting graphic files among user networks.

2 The window can, and should be extended horizontally.

3 The window can, and should be extended horizontally.

4 *Graphidex* should take the lead from Silicon Beach and permit automatic access to the movement hand through use of the shift bar.

5 There is yet another DA outliner being developed which will allow a number of outlines to be simultaneously displayed on screen.

6 Though it doesn't allow full text editing, the outliner included as part of the upcoming *Microsoft Word 3.0* is an exciting outliner-to-text/editor-to-outliner combination.

Stack Your Mac!

Put an end to stiff necks and cluttered desks, **MacStac™** raises your Mac 5 ½" to the optimum eye level and provides space for your external drive, disks, mouse, modem and more—in no more room than the Mac itself. Sturdy, stable acrylic design, doesn't put external drive on its side or block the Mac's air vents.

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Circle 185 on Reader Service Information card

By Larry Pina

AD PROCESSING

"Ad processing without computer assistance can be a frustrating proposition. Anyone who hasn't done it can't possibly appreciate how frustrating..."

Despite all the money spent promoting 'desktop publishing . . . ' it's by definition [desktop publishing of newsletters] an application with very narrow appeal. In twelve years as an independent retailer, I never once prepared a newsletter or a magazine. Nor did any of my competitors. What we did prepare were newspaper ads. I personally spend one day a week, each and every week, laying out newspaper ads. If someone had tried to sell me a computer for 'desktop publishing . . . ' purposes, I wouldn't have been interested. But if someone approached me talking about Macintosh 'ad processing,' he might have made the sale.

Ad processing without computer assistance can be a frustrating position. Taking scissors in hand, you slice up manufacturer-provided ad slicks and tape the selected line art onto newspaper size layout sheets. next, you create matching copy on a typewriter, and label it copy 'A,' 'B,' 'C,' etc., with reference to the layout. Then you put in prices and typesetting instructions. Finally, you go over everything carefully with the advertising rep. He forwards your instructions to typesetting. They lay out everything again, in theory according to your instructions, but in reality pretty much as they see fit. Your ad never stands out because the newspaper only knows how to make a handful of styles, and they all look the same. Occasionally, you'll get a proof back in time for corrections. Even when you've carefully included the store's phone number, address, special sale hours, etc., and despite repeated instructions, critical copy still manages to get lost. You go through this week after week. Anyone who hasn't done it can't possibly appreciate how frustrating it becomes.

With Macintosh, no part of the ad can ever get lost because traditional typesetting is completely bypassed. Scissors and tape are dispensed with. Camera ready layouts from the ImageWriter II are photographed and set exactly as you submit them. There's no possibility of lost copy—no need to rush around with proofs and last minute corrections. Just think of the potential . . .

50% of everything published is a newspaper ad. The majority of ad publishers are not now using computers. If it can be demonstrated that 'Macintosh makes ad processing easier,' then thousands of computers will be sold on that strength alone. The more that are sold, the cheaper the hardware will become. More software will be sold and the cheaper it'll become. Whether you're in small business, big business or no business, everyone stands to benefit from 'Macintosh ad processing.'

AD PROCESSING WITH MACDRAW

According to the original Macintosh marketing plans, four programs, *MacWrite*, *MacPaint*, *MacDraw*, and *MacProject* were supposed to have been ready along with the computer. Only *MacWrite* and *MacPaint* made it. At the last minute it was decided to compensate by bundling the available software and selling the system as a package. This tactic worked so well that *MacWrite* and *MacPaint* were included with every Macintosh sold through January 1986. Yet, I can't help wondering what might have happened had the bundled graphics program been *MacDraw*. As nice as it is, *Paint* is a flyweight next to *MacDraw*. *Paint* may be a useful tool; but *Draw* is an entire workshop of tools.

MacDraw has horizontal and vertical rulers for accurate layout work—*MacPaint* has no rulers. For accurately sized objects, *MacDraw* has a Show Size command that works like a tape measure. Click, drag, watch the size indicator, and release when the object is the size you want. Need a 4 column by ten inch ad? Select a reduced view of drawing and create an unfilled rectangle 6 inches wide by 10 inches deep—all with a single mouse sweep. In *MacPaint* you have to guess at object size, and you can't work on reduced views of the painting. Not satisfied with the border you drew? In *MacDraw* it's dynamically editable. There's a pen menu with 36 patterns for lines and borders. Change it now, change it later—it's never too late to change the fill patterns and borders in *MacDraw*. Now enter text, import text—change the style, face, and size. Go back and edit text after you've clicked somewhere else. Bring in clip art; create original art. Work on layouts up to 32 square feet in size—four of them, all open at once. Talk about paste boards! This feature gives the program over a hundred square feet of pasteboard! As I see it, Mac'Draw' may have been an imagination-restraining misnomer. This program's future is definitely in Mac'Vertising'!

MACVERTISING WITH MACDRAW

MacDraw has a wealth of menu commands which make using it mouse intensive. That slows you down. With *ResEdit* (or *MenuEdit*) you can speed things up a bit by assigning some of the commands a keyboard equivalent. Under the File menu, assign Command-W to 'Close,' Command-Option-P for 'Page Setup...' and Command-P to 'Print...'. Under the Edit menu, assign Command-K to 'Clear'. Under the Style menu, assign Command-Spacebar for Plain Text, and Command-M to 'Center.' Under the Layout menu, assign Command-R for 'Reduce,' Command-Option-R for 'Reduce to Fit,' Command-Shift-Option-R for 'Normal Size,' and Command-Option-2 (™) to 'Show Size' (for Tape Measure). Under the Arrange menu, assign Command-Option-Period (>) to 'Bring to Front', Command-Option-Comma (<) to 'Bring to Back,' Command-Shift-Option-Period to 'Paste in Front,' Command-Shift-Option-Comma to 'Paste in Back,' Command-Option-H to 'Flip Horitzontal,' Command-Option-V to 'Flip Vertical,' Command-Option-G to 'Group,' Command-Option-G to 'Ungroup,' Command-Option-L to 'Lock,' Command-Option-L to 'Unlock,' Command-Option-Equal Sign (=) to 'Align to Grid' (because = looks like a grid), and finally Command-Option-Hyphen (—),[Command-Underline] to 'Align Objects.' You could, of course, assign any keys you wanted to these commands, but you may run into trouble. Number combinations are generally reserved as Function Keys, the greater-than and lesser-than operators, (›)don't work at all, and the three keys following the letter 'P' ([,],›) are reserved for *Switcher*. The examples offered above are easy to remember, and they all work perfectly. Choose these keyboard equivalents and you'll only have to assign them once.

To begin MacVertising, copy the customized program along with *Switcher* 4.4, *MacPaint* and ImageWriter Driver 2.3 to a formatted workdisk. Note that the present version of *MacDraw* (1.9) doesn't work very well with the latest *Switcher* (4.9), and that ImageWriter 2.3 gives better results than 2.0, which otherwise also works fine. Start Mac 512's with 140K *SBA MacStart* software (see July SBA/Mac for details) and configure *MacPaint* and *MacDraw* into 144K-152K partitions. In the production of smaller ads, choose a layout twice the size of what you want (Figure 1), then print at 50% reduction for the highest resolution. In the production of larger ads, work on a layout half the size of what you want, then, just before printing, 'Select All' (Command-A), 'Group (Command-G), 'Reduce to Fit' (Command-Option-R), 'Show Size' (Command-TM—for Tape Measure), and double everything. Next, go to the Font menu and double all the text sizes. These steps take only seconds, but allow you to confine layout work to a smaller area, speeding up production. MacVertising results (Figure 2) will speak for themselves.

MacDraw
Apple Computer, Inc.
20525 Mariani Avenue
Cupertino, CA 95014
Tel: 408 996-1010
Suggested Retail $195

Larry Pina is small business and all business! Write to him with your business software successes and failures care of *THE MACazine*, P.O. Box 9802, No. 919, Austin, TX 78766.

The
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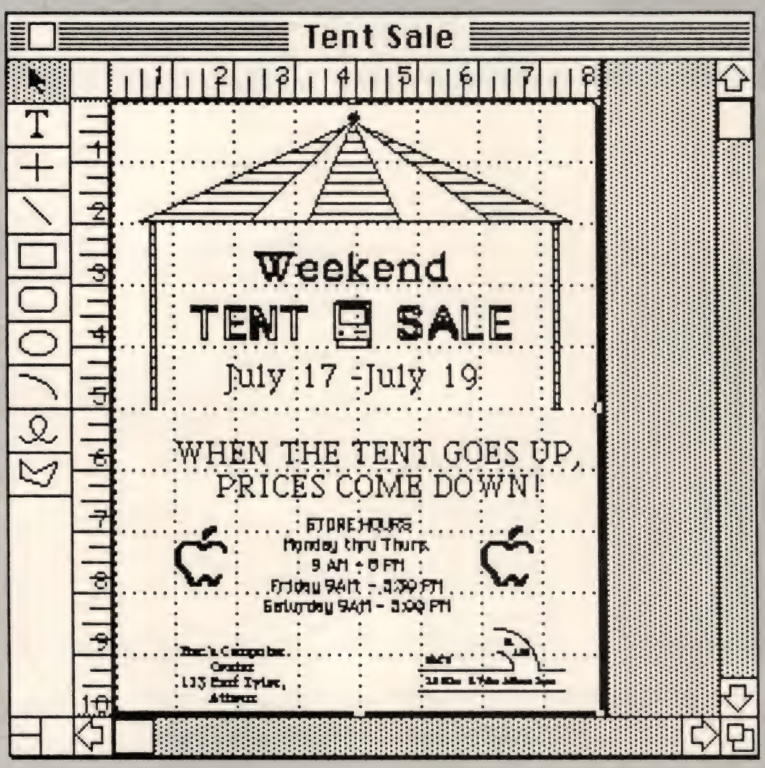

Macvertising Results

The tent sale ad was created entirely with MacDraw and MacPaint, running together in Switcher on an ordinary 512K Macintosh. To recreate it, boot the system with 140K SBA MacStart software (MACazine, Aug. '86), and set up a Macvertising workdisk with copies of MacDraw, MacPaint and Switcher. Launch Switcher, and configure both programs into 144K to 152K partitions. Since the desired result is an ad measuring 4" x 5" and the idea is to print at 50% reduction, select the rectangle tool and draw a border 8" x 10". Fill should be "none". Use the polygon tool to draw the tent top. Fill alternating sections with the broader of MacDraw's two horizontal line patterns. This gives the impression that the Fill Lines will be spaced too far apart (Fig. 1), but printing reduces the layout to 25% actual size, resulting in four times as many lines drawn in the same relative space (Not shown). The top ornament is a perfect circle drawn with the oval tool by holding down the shift key. Fill is black. Tent poles are drawn with the the rectangle tool and filled with "none" or medium density gray. "Weekend" is set in New York 48, typed in MacPaint, touched up with Fat Bits to minimize jaggies, then cut and pasted into MacDraw. Likewise "Tent Sale" is set in Geneva 48. The Mac itself and both Apples are in oversized retouched Taliesin. The tiny font in the road map is actually New York 9, which 50% printing reduces to a very legible N.Y. 4.5!

All this may sound complicated, but it really isn't. Once you have your disks set up and get a little practice, subsequent ads take only a half hour or so to produce. This not only reduces costs but gives Macvertisers total control over content. You get exactly the ad you want without having to worry about outside editing to make the copy "fit" the allotted layout size.

P.S. This column was prepared using ReadySetGo3.

THE WELL-TEMPERED MAC

by George F. Litterst

I thought that this would be a good time to devote my column to the current state of music desktop publishing (MDP). Since I last devoted an entire article to this subject in April of 1986, there have been some exciting developments as well as a few disappointments in this area.

There are four steps to the publication of a musical score with MDP tools: data entry, editing, page layout, and printing. The first step involves entering basic information such as the time signature, key signature, clefs, and the notes themselves with correct rhythm on the correct staves. The second step involves the manipulation of that basic data, such as the beaming of flagged notes (eighth notes, for example), the correcting of stem directions, the addition of articulation marks (such as staccato dots and slurs), the addition of dynamic and tempo markings, the entry of text, the addition of a host of other music symbols, and the correction of mistakes. Depending upon how 'smart' the software is, some of the editing chores may have been handled automatically in the first step. The third step involves decisions concerning page and line breaks, indentations, title page, headers, footers, measure numbers, and possibly other special considerations such as the integration of music with other text and graphics on the page. Lastly, the score must be printed quickly and legibly.

DATA ENTRY

The fastest way to enter massive amounts of musical data is to perform the piece in question on a keyboard either note by note, section by section, or all at once. Sequencing software offers the possibility of recording a live performance which later can be converted to notation. To use sequencing software successfully in this way, one must generally play rigidly and accurately to a metronome beat. The resulting sequencer file must then be further 'quantized' to some rhythmic value to correct for minute rhythmic inaccuracies. Finally, the sequencer file must be converted to a file that can be read by a notation program.

During the past year, Mark of the Unicorn released *Performer*, a sequencer which is compatible with *Professional Composer*. (See last month's MA*Cazine* for a review.) Generally speaking, each separately recorded track in *Performer* ends up being notated on a separate staff in *Composer*. This a fine arrangement for transcribing separate orchestral parts. One records each part separately, and, after quantizing the rhythmic values and specifying a time signature and a key signature, each part appears notated on a staff in *Composer*. Beaming is done automatically.

Though it does a fairly good job of transcribing orchestral parts to notation, given the limitations of *Professional Composer*, there are a number of areas in which there could be greater intelligence in the interpretative process. For instance, the C-sharps that one plays in *Performer* may consistently get translated as D-flats in *Composer*. In *Composer*, those D-flats will have to be deleted and re-entered as C-sharps—a cumbersome process. Unfortunately, there is no global way to edit those D-flats in either *Performer* or *Composer*.

The most common type of score that one might want to transcribe is a keyboard score which would normally be notated on two clefs. *Performer* cannot interpret a keyboard performance and separate the notes properly onto two separate staves without help. However, *Performer* offers editing features for splitting a sequencer file into two separate tracks at a given note such as middle C. Each track can then be written to its own clef in *Composer*. Keyboard scores of even moderate difficulty, however, may involve two separate voices on a staff. Because *Composer* handles this situation by requiring one to notate such a piece on four staves and then merge them down to two, such scores do not easily lend themselves to transcription from *Performer*.

As of this writing, *Musicworks* still has not finished its conversion program called *MIDIWorks* so that it will convert sequencer files to notation programs. *Total Music*, which offers sequencing and notation in one program, is still not a total program. Though it has been on the market for over a year and a half, no progress has been made toward making the notation part of the program even remotely usable. Opcode has been advertising a version of its sequencer which is said to have the ability to convert files to *Deluxe Music Construction Set* (*DMCS*). So far, a review copy has been unavailable.

Score transcription offers formidable challenges to a programmer, so it is not surprising that this has been a slow area to develop. There has also been a perception by many or most companies that there is more of a market for sequencers for studio work and live performance than for score transcription; therefore, the current generation of sequencers have become advanced in most areas except score transcription.

EDITING

Very little new has happened in the past year to improve the area of score editing. The new version of *DMCS* (2.0) offers vastly improved printout, but handles editing in basically the same way as the original release. There hasn't been a new release of *Professional Composer* in one and a half years. However, there have been hundreds of thousands of hours of accumulated use of notation programs by thousands of users. One wonders if anyone is asking them what they want in terms of improved editing tools.

A few features that would dramatically enhance existing notation programs would be the ability to move as well as to hide *all* symbols on the page. *DMCS* allows this for many, but not all symbols, but has no helpful grid for alignment. *Professional Composer* does not have this feature at all. Global editing features for changing, say, all C-sharps to D-flats would be most desirable, as would the ability to select regions of a composition in which all notes could be edited in the same way, such as made staccato. Editing tools for quickly and easily correcting pitches and rhythms are a must.

FORMATTING

The problems of straight score printing with title page, headers, footers, page and measure numbers, multi-measure rests, and justified righthand margins have been solved fairly well by *Professional Composer* and have not changed in the past year. What is new this year is the ability of *DMCS version 2.0* to export music to other programs which support the Clipboard, such as *MacWrite* and *PageMaker*. This is an important breakthrough, because music often needs to be mixed with graphics and text, as in the case of instrumental instruction books, children's music, song books, music theory books, and professional music publications—to name a few examples.
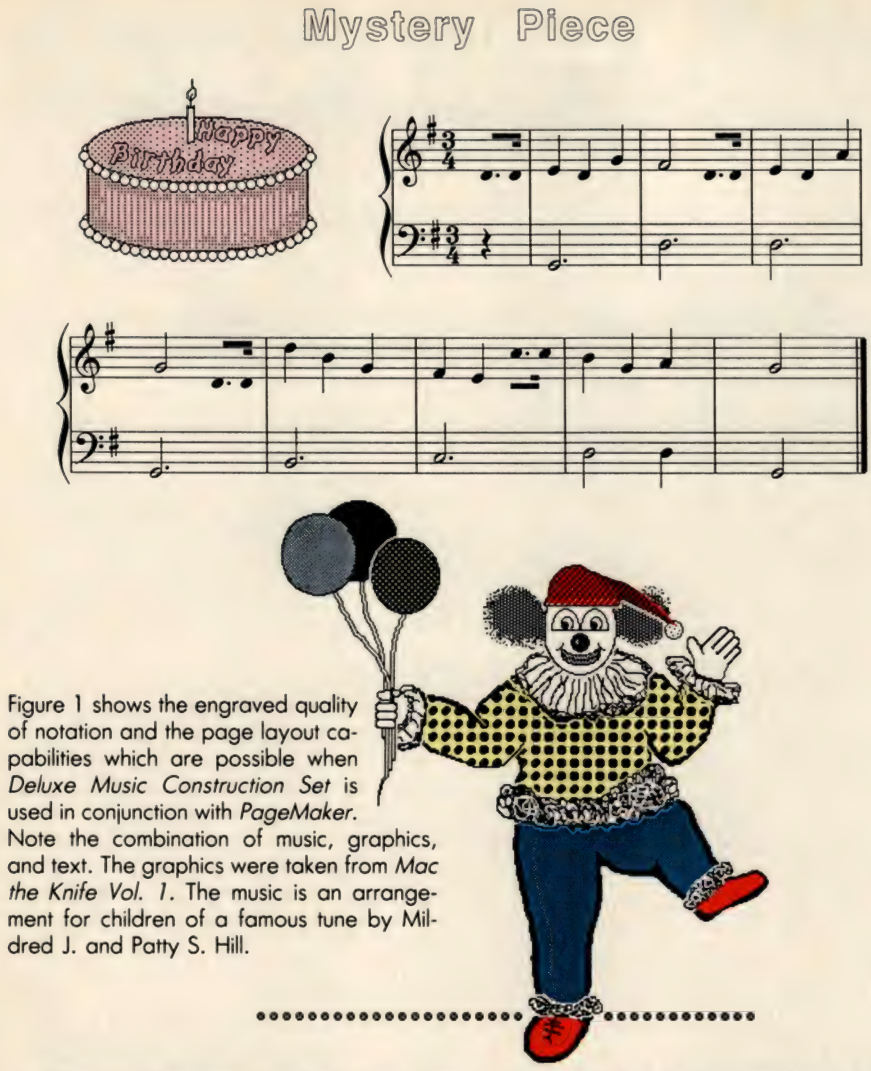
Figure 1 shows the engraved quality of notation and the page layout capabilities which are possible when *Deluxe Music Construction Set* is used in conjunction with *PageMaker*. Note the combination of music, graphics, and text. The graphics were taken from *Mac the Knife Vol. 1*. The music is an arrangement for children of a famous tune by Mildred J. and Patty S. Hill.

Figure 1 illustrates a page of music that might appear in a music book for children. It shows the possibilities of integrating music from *DMCS* with text and graphics in *PageMaker*. The graphics were first edited in *FullPaint* and copied into *PageMaker*. The music was notated in *DMCS*. After deciding on a line break at the end of the third full measure and estimating the desired pixel width of the first line, I set the number of measures and pixels per line accordingly using the Score Setup window in *DMCS* (figure 2). I then copied and pasted the first line into *PageMaker*. Next, I went back to *DMCS* and deleted the first line. At this point I changed the number of measures per line to 5 and increased the number of pixels per line. After manually respacing some of the notes, I copied and pasted the second line into *PageMaker*.

All that remained was for me was to add the double bar with the Sonata font, to add the title, and to cover up the unwanted and inaccurate measure numbers that *DMCS* had given me. The latter task involved covering the measure numbers with a circle drawn with a zero-width 'pen' and filled with a white 'pattern.' (This last task will probably sound totally bizarre to anyone who has not used *PageMaker*.)

The music example exported from *DMCS*, as far as the Mac is concerned, is merely a picture composed of QuickDraw routines and font information. *DMCS* uses the new PostScript music font from Adobe called Sonata. When music is exported to a program such as *PageMaker* or *MacWrite*, the font information is retained, and the printed results on a LaserWriter or Linotype machine are of engraved quality.

PRINT OUT

This area has been discussed a couple of times in the last few months in this column. The new Sonata font, used in conjunction with PostScript compatible computers, has solved the problem of printing a score with a quality that is up to traditional publication standards. What remains is for more music programs to use it. (See figure 3.)
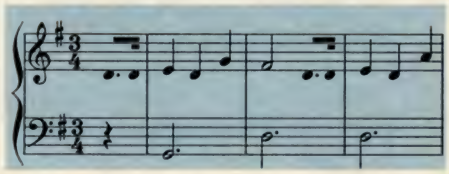
Figure 3 shows the Sonata font, as used by *Deluxe Music Construction Set*, at normal size printed by the LaserWriter.

THE GOOD NEWS

Though MDP has been somewhat slow to develop, music publishing is a natural field for computer assistance. First of all, the music industry is a huge, multi-billion dollar industry which touches almost every member of society. At the heart of most musical activities is printed music. One would think, therefore, that a lot of money could be made by programmers who put MDP tools into the hands of individuals and publishing companies. Fortunately for the rest of us, two new companies claim to be on the verge of offering sophisticated notation packages for the Mac. As previously mentioned in this column, Advanced Music

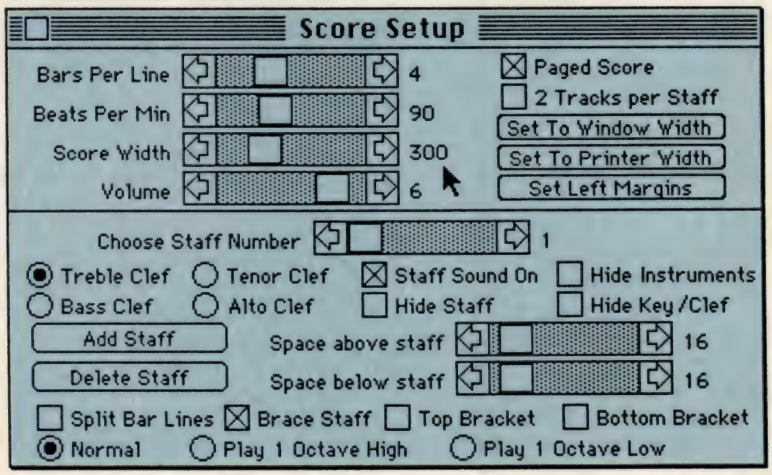

Figure 2. The Score Setup window of *Deluxe Music Construction Set* can be used to determine the exact number of measures per line and the exact width of that line in pixels.

Notation Systems is hard at work on a product called *High Score*. Another new company, called Sonus, has just announced another scoring packaged called *SuperScore*. Its features are said to rival *Professional Composer* at a slightly lower price of $425. It will come with a built-in sequencer.

Competition in this arena will likely improve all available products as well as help to drive the prices down. With computer memory now so cheap, memory considerations will hopefully not interfere with the implementation of desirable features.

Another interesting development is that of the Simple Music Interchange File Format (SMUS-IFF) now used by Electronic Arts and Opcode. This file format makes it much easier to transfer data back and forth between sequencer and notation programs of various manufacturers. It will be interesting to see if this standard catches on.

THE BAD NEWS

The bad news is that there is copy protection everywhere in the MDP area. The Sonata font is protected in such a way that it can only be used on a single PostScript printer. This is an unbelievable inconvenience for the musician who doesn't own his/her own LaserWriter, but rents or borrows time on other LaserWriters. Why should a composer have to spend $95 on the Sonata font and then be restricted to using it on a single LaserWriter?

Virtually all notation and sequencing programs are copy-protected, as is *PageMaker*. After spending hundreds of dollars on software and possibly even more on increased computer memory in order to run two or three of these programs simultaneously in *Switcher*, it is an outrage to have to spend time swapping key disks in and out of the Macintosh. To add insult to injury, when running *DMCS* from a backup copy according to the instructions in the manual, one is confronted with an obnoxious message stating that the user is using an unauthorized copy. It is about time that developers of music software caught up with the rest of the computer industry and enhanced the productivity of their products by removing copy protection.

SuperScore
Sonus
21430 Strrasthern, Ste. H
Canoga Park, CA 91304
(818) 702-0992
$425

George Litterst is a Contributing Editor and a professional musician who, in addition to performing, teaches at Northeastern University and the New England Conservatory Extension Division. Comments and questions can be sent to him at 28 Daniel St., Newton Centre, MA 02159; CompuServe 72447,257; or GEnie; GFLITTERST.

GOOD BUYS & OTHER STUFF

By C. J. Weigand

VOILA™ V1.0

Classical outlining, as it's taught in our schools, has you create headings and subheadings ad nauseum. Once you have a skeleton framework upon which to build, only then do you actually begin to write. Unfortunately, the average thought process stubbornly refuses to adhere to such a strict procedure. The mind likes to jump nimbly from topic to topic. Many thoughts occur, not in step-by-step logical progression, but haphazardly, in apparently random fashion. Most of us, therefore, have found the constraints of outlining stifling to creativity, and we often end up first putting our thoughts down on paper, then later rearranging them into some semblance of order.

With the advent of computer-based word processing came new outlining tools that let you come close to doing just that. On the Macintosh, you'll find that some outliners are applications and others are desk accessories, but all are intended to help you structure your writing. Headings and subheadings can be rearranged at will, topics can be collapsed or expanded for viewing, and so on. Several good outliners currently are available, including *ThinkTank*™ and *MORE*™ from Living Videotext, *Acta*™ from Symmetry, and *MaxThink*™ from the company of the same name. However, all these programs rely on the premise that outlining is generally done first and the actual writing done later. Granted, a lot of flexibility is built into these programs. You can alternately outline your work or write blocks of text, and rearrange all of it as you go along. Yet, none of these outliners supports the notion of extracting the central ideas from something that you've already written and placing those ideas into outline form *after the fact*.

Voila, a new desk accessory outliner from Target Software, publishers of the best selling spelling checker *MacLightning*™, has changed all that. *Voila* lets you work in a way that is most comfortable for you. You can outline in traditional fashion when preparing, say, technical documents, or *since* Voila *will automatically construct a full outline from a piece of completed writing*, you can outline *after the fact*. *Voila* not only recognizes headings and subheadings, but additionally creates new headings from the first sentences of paragraphs. And, of course, once an outline has been generated, its entries can be modified and rearranged at will. Using an outliner to help structure your writing after the fact can allow you to evaluate your work critically without hampering the initial creative process.

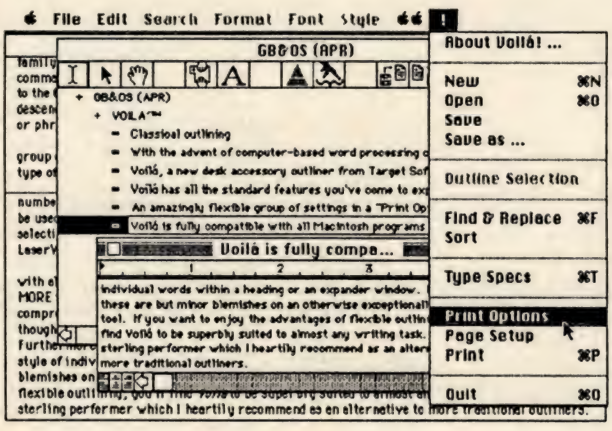

Figure 1. *Voila* generated this outline in just seconds. Note the convenient arrangement of Command icons. These icons make working with *Voila* exceptionally easy. Note also the separate expander window which contains text of the last heading (in this instance, the final paragraph of the *Voila* review). *Voila* expanders can contain either pictures or text.

Voila has all the standard features you've come to expect in a good outliner. Working with the program is easy, especially because of its convenient set of icon commands that lets you effect changes rapidly without having to go to the menu each time. *Voila* supports scrolling with the arrow keys on the Mac Plus, and a full complement of Command key equivalents is available for all operations. In addition to the usual headings and subheads, *Voila* includes 'expanders,' special windows which let you store either text or graphics. Text in an expander window can be processed just as in a normal word processor, independently of the remainder of your outline. This means that different fonts, sizes, styles, justification, and line spacings can be used within a given outline. The standard Cut, Copy, and Paste commands are also fully implemented; thus you can select and copy any portion of your outline to the Clipboard and transfer it into other documents. Headings may be sorted either in ascending or descending order, and a 'Find & Replace' command lets you rapidly search your outline for any particular word or phrase.

A 'Print Options' dialog box lets you specify several types of printed output. These include: printing information to a particular level within your outline (deeper levels will be suppressed); adding headers and page numbers to your document; using Roman, Arabic, Standard, or Symbol formatting (you can tell *Voila* which symbols are to identify which levels); and automatically generating a table of contents. You can print just a portion of your outline, or the whole thing. Both the ImageWriter and LaserWriter are fully supported.

Voila is compatible with all Macintosh programs that support desk accessories. You can open *ThinkTank* and *MORE* files (*MORE* files must be saved in the *ThinkTank* format) directly into *Voila* and vice versa. The *Voila* manual is well written, and a comprehensive tutorial has you up and running in no time. No Help menu is provided, though, nor is there any online display of the many Command-key shortcuts. The Undo command, unfortunately, can't be used within *Voila*, nor can you change the typestyle of individual words within a heading or an expander window. However, these are but minor blemishes on an otherwise exceptional tool. If you want to enjoy the advantages of flexible outlining, you'll find *Voila* to be superbly suited to almost any writing task. Overall, I consider *Voila* to be an excellent performer, and I heartily recommend it as an alternative to more traditional outlining programs.

THUNDER™ V1.0

In the October 1986 edition of *MACazine* I reviewed six spelling checkers. As of this writing, not much has changed except that a new spelling checker called *Thunder* has arrived on the scene. *Thunder*, from Batteries Included, is advertised as being a 'writer's assistant.' It contains not only a capable spelling checker, but also a glossary for expanding typed abbreviations 'on the fly,' and a document analyzer that counts words and simultaneously rates readability according to the widely used FOG and Flesch indexes (readability is expressed as the number of years of schooling an average reader must have to comprehend what you've written). This kind of broad versatility was missing from most of the spelling checkers reviewed in my earlier article. *MacGAS* offered an easy-to-use, built-in glossary identical to their popular *QuickWord*™ desk accessory, but that was about it. *Thunder*, on the other hand, lacks a few features that other spelling checkers offer, most notably a thesaurus. Still, it's an excellent utility that offers considerable power for the price.

Thunder uses three types of dictionaries. There's the single main dictionary which consists of about 50,000 words, supplementary dictionaries which you build as you go along, and 'Learned Word' dictionaries which form the foundation for the glossary. The main and supplementary dictionaries are used to perform spell checking. Both interactive (online) and batch-style (after-the-fact) checking are supported. Whenever a suspected error is encountered during interactive checking, *Thunder* flashes the menu bar at you or beeps. Hitting 'Command-Spacebar' then displays a window in which one or more replacement words are listed. Substituting a correct word is as simple as typing the appropriate Command-key combination or double-clicking with the mouse. You can also 'test' a new word before using it, and *Thunder* will tell you if it's spelled correctly or not.

Thunder uses the Clipboard to perform batch-style checking. Some programs don't properly support the Clipboard, though, and occasional problems such as loss of formatting may be encountered. This is a significant problem which occurs, for example, with *Microsoft Word*. Misspellings and typos, however, are shown in context, and the overall correction process is quick and easy. When you batch check a selection, a 'Stats' window becomes available that gives individual character and word counts, along with the FOG and Flesch Readability Indexes. Various other statistics, such as 'Number of words with at least 3 syllables' and 'Average number of words per sentence' are displayed too, but most of these are useless. I think they're included only because they're needed anyway to compute the Indexes, and the programmer probably thought it might make the program look a bit more impressive if you could see them.

Thunder attempts to be many things, but the real question is, 'How good is it at spell checking?' The answer is, 'pretty good, but not great.' At 50,000 words, the main dictionary is somewhat limiting. Only about 2,000 new words can be added, and words can't be deleted. You can create as many supplementary dictionaries as you like, but they're limited to 32K each, and no more than one supplementary dictionary may be loaded into memory at a time. The dictionaries, in short, are *Thunder*'s Achilles' heel. Also, the manual states that due to the complexity of the compression algorithm, some random errors occur in the main dictionary. The manual further states that they're 'rarely and infrequently seen, usually in larger words, but are beyond our control at present.' Any errors in a spell checking dictionary are, in my opinion, grave cause for concern. The spell checking process itself, however, is smooth and reasonably quick, and the selection of words in the main dictionary is well chosen.

Thunder works well with most applications, but there are a few programs with which it won't function at all, including *FullPaint* and *Microsoft File*, and a few others that it will work with only partially. The manual is quite candid about these limitations, and it provides detailed information about how to best handle different types of software. The glossary, or 'Learned Words' feature is extremely useful, though. A correct word may be substituted for any chosen word that you habitually mistype or misspell, and special abbreviations can be expanded into entire words or phrases instantly as you type. I also liked having the readability indexes available online. They actually help you to know when you're writing intellectual gobbledygook! All in all, I found *Thunder* to be a useful product. Version 1.0 does have several flaws, but Batteries Included has a good reputation for supporting their released software with low cost upgrades, and I'm confident that these shortcomings will soon be corrected.

inLARGE™ V1.0

inLARGE, a tiny application from Berkeley System Design, may just turn out to be the 'sleeper' of the year. Developed under a Small Business Innovation Research Grant funded by the National Eye Institute, it enables visually impaired persons to readily use a Macintosh computer despite the small display screen. inLARGE *magnifies whatever is on screen from two to sixteen times original size, and the magnified view follows cursor movements automatically*. For example, you can type a letter using your favorite word processor or create an image in a graphics application, and the magnified frame will track right along with your cursor or drawing tool!

Various Option-keystrokes allow you to tailor *inLARGE* to personal preferences. You can view the screen inverted (white on black) for improved readability, or you can let *inLARGE* scan your document for you (horizontally or vertically) at whatever speed is comfortable. And you can enlarge just a portion of the screen, and then blank out the remaining background should you find it distracting. Vertical magnification can be varied to produce taller or wider characters, and a full-screen crosshair can be called up as an additional positioning aid. You can 'lock' a magnified view so that, when you've completed examining another part of your document, the view will 'snap' back to the locked display position automatically. *inLARGE* can also be toggled between On and Off, and from Enlarged to Normal-Size screen display.

At this point you might wish to inquire just why I'm so excited about *inLARGE*. After all, it's intended for use only by the visually im-

paired, right? Well, actually it's a much more powerful program than you might think. In fact, I don't think even its developers knew quite what they had on their hands when they released it. There's certainly no hint in the manual. Should you want to envision the *real* potential of this little gem, pause for a moment and concentrate on the word 'GRAPHICS...' do you get the picture? inLARGE *is an extraordinary tool that gives you the ability to perform precision work within any graphics application.* Want to zoom in to add some fine details to a *MacDraw* document? With *inLARGE* you've got sixteen zoom levels at your command! How about ultra FatBits in *MacPaint*? And think about the ease with which you can customize LaserBits images in *SuperPaint*, or, for that matter, the accuracy with which you can edit high-resolution scanned images to achieve superb LaserWriter output. *inLARGE* may be an excellent assistant for the vision-impaired, but it's an even more outstanding tool for the Macintosh artist or illustrator.

When working within bit-mapped paint programs, *inLARGE* is easiest to use when some degree of enlargement is already provided (a la FatBits). This gives you smaller tools to work with when editing your magnified pictures (remember, *inLARGE* magnifies everything on screen—tools as well as pictures). For object-oriented draw programs, though, precision alignment of objects is a breeze at any magnification. There are one or two small problems, though. When using *inLARGE*, some operations on the Mac are perceptively slower. This is a minor shortcoming, but at times it can be annoying. Another difficulty arises when using the Option key for other program functions. If you're not sufficiently nimble when typing on the keyboard, *inLARGE's* Option-Command feature may take precedence. Still, I consider *inLARGE* to be such an extraordinary program that I enthusiastically rate it this month's BEST BUY!

SHORT TAKES

• *Tempo*™ from Affinity MicroSystems continues to be a stellar performer when it comes to creating macro shortcuts. Few programs contain built-in macros, but their versatility makes such programs as *Tempo*, which allow you to customize your own macros, worth considering. You'll be pleasantly surprised at all that you can program your Mac to do with a single keystroke! *Tempo* goes far beyond ordinary 'record/playback' applications, though, in permitting you to 'connect' different programs to move data between them and to perform other operations. Two or more macros can also be linked using conditional branching, and loop commands let you perform repetitive tasks automatically. *Tempo* can even 'read' text or data and apply 'greater than/less than' logic to branch to other macros. If you find yourself frequently using the same extended series of commands to perform some routine task, take it from me, *Tempo* can make your work considerably easier by automating the process.

• Experiencing a problem while working on your Mac? An unusual error message that keeps appearing, or some abnormal behavior that you've never seen before? Perhaps a lost file, or even a damaged disk? Then look to *1st Aid Kit*™ for help. A comprehensive manual forms the heart of this specialized software. In it you will find listed and discussed virtually every Macintosh difficulty that has ever been encountered (if you find a new one, let the folks at 1st Aid Software know about it). Not only does the manual go into great detail about all kinds of problems, but it also tells you how to avoid them, and how to correct them whenever they do occur. It's fascinating and informative reading. The accompanying software is intended to fix certain problems that can't be tackled in any other way. Three extra disks contain tutorials and actual sample problems. Shortcomings? Just one, and it's temporary. The recovery software currently supports only MFS disks. An HFS version is under development for release later this year, and upgrades will be made available to registered users. Nevertheless, *1st Aid Kit* falls into that special category of 'must have' products. At the very least, the manual (which is absolutely invaluable) is required reading and belongs in every Macintosh software library. I recommend not waiting for the HFS version. Get this product now...it's that good!

• *DiskOrder*™ from Paragon Courseware is a utility for cataloging disks and backing up files. It has some innovative features that I've found quite handy. In addition to the usual building of catalogs by sequentially inserting and removing disks, *DiskOrder* can search for and group files containing a common character string, and then automatically copy them to one or more floppy disks. For example, I frequently append '.illus,' '.ltr,' and '.art' (three convenient abbreviations for 'illustration,' 'letter,' and 'article') to file names on my hard disk. Using *DiskOrder*, I can search for and list all files containing an abbreviation, deselect those files I don't want copied, then let *DiskOrder* automatically transfer the remaining files to floppies for storage. *DiskOrder* can also selectively backup files by modification dates and by creator types, and older files can be updated to match current or selected versions. *DiskOrder* can even compare two files to determine if they're identical or not. Multiple files may be tagged for deletion, either individually or by category, and *DiskOrder* will trash them automatically after prompting you to insert the appropriate disks. The program has some rough edges, though. For instance, if you're working from a hard disk, its contents will be catalogued automatically whether you want them to be or not. And, although *DiskOrder* records complete HFS paths to buried files, the path listings cannot be viewed on screen until the catalog is saved and opened within a text editor, word processor, or spreadsheet. Label printing, too, is marginal at best. Still, the special features I've described make *DiskOrder* a product worth considering, particularly if you've got massive amounts of data stored on floppies or a hard disk which need to be organized.

GRIPE OF THE MONTH

My gripe this month concerns the vendor who fails to provide registered users with notification of product updates. Those of you who've followed my articles know that I'm big on customer support. I consider informing customers about enhancements and bug fixes to be especially important. It's the rare product that's entirely 'perfect' when first released, and a good company is one that continually attempts to improve an existing product line, even as new products are being developed. The minuscule cost involved in keeping customers informed of these improvements is usually more than offset by the word-of-mouth sales that result from such a policy. In short, it's good for the user, *and* it's good for the vendor. If you discover that a product you've purchased has been upgraded, and you haven't received any notification from the parent company (assuming you've sent in your registration card), write them a letter and complain. Customer feedback, after all, is important too. And, maybe...just maybe...your letter will have a positive effect and help to bring about a change in company policy!

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Target Software
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Miami, FL 33186
(800) 622-5483
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Thunder™ v1.0
Batteries Included
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Richmond Hill, Ontario
Canada, L4B 1B5
(800) 387-5707
$49.95 (Not copy protected)

inLARGE™ v1.0
Berkeley System Design
1708 Shattuck Ave.
Berkeley, CA 94709
(415) 540-5537
$95 (Not copy protected)

Tempo™ v1.1
Affinity Microsystems
1050 Walnut St. #425
Boulder, CO 80302
(800) 367-6771
$99 (Not copy protected)

1st Aid Kit™ v1.0
1st Aid Software
42 Radnor Rd.
Boston, MA 02135
(800) 843-3497
$99.95 (Not Copy Protected)

DiskOrder™ v1.0
Paragon Courseware
4954 Sun Valley Rd.
Del Mar, CA 92014
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Reflex is a visual database manager that gives you amazing control over your data. It combines the analytic capability of a relational database with the number-crunching power of a spreadsheet—without programming. You can learn the program in a few hours and then get right to the task at hand of managing those facts and figures.

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- ☑ Templates to get you started, including checkbook, inventory, client billing and much more.

*Introductory price expires July 1, 1987. All products require a Macintosh 512K or Macintosh Plus with one disk drive. Second external drive recommended for Reflex. Hard disk recommended for SideKick.

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Circle 13 on Reader Service Information card

MAC STUFF

By Max Vizsla

These new products are listed as a service to our readers and do not imply any endorsement or guarantee. We hope you like them. If you contact the manufacturers, please tell them you saw it in The MACazine.

SOFTWARE SCREEN EXTENDER

Stepping Out
Berkeley System Design
1708 Shattuck Ave.
Berkeley, CA 94709
(415) 540-5536
Suggested retail price: $95.00

Stepping Out is an innovative new piece of software that allows you to shrink or enlarge the display on your Mac screen. With it, you can simulate a large full page screen or increase the size of the display for fine work. I saw this program at Macworld Expo, and it looks really great.

OVER 1000 HINTS AND TIPS

The Power User's Manual
Randal L. Kottwitz
MacUser Publications
25 West 39th St.
N.Y., N.Y. 10018
Suggested retail price: $17.95

One of the best hint/tip books I've seen. Kottwitz obviously knows his stuff; there was a lot in this book that even I didn't know. Excellent indexing by both category and subject make it easy to find hints when you need them. I recommend this to anyone who uses their Mac.

MAPMAKER UPDATE ANNOUNCED

MapMaker 2.0
Select Micro Systems
2717 Crescent Drive
Yorktown Heights, NY, 10598
(914) 245-4670
Suggested retail price: $295.00

Select Micro Systems has announced the availability of *MapMaker Version 2.0*. This new version has many new features, including *MacDraw* (PICT) output option and full LaserWriter Support.

TEACHERS—KEEP TRACK OF GRADES

MacTAG, Teacher's Assistant Grader.
Paragon Courseware
4954 Sun Valley Rd.
Del Mar, CA 92014
(619) 481-1477
Suggested retail price: $49.00

MacTAG, Teacher's Assistant Grader, is a software program that assists teachers from the kindergarten to university level with keeping track of assignments, scores, points and grades. It will process files for up to 1,000 students.

FONTS, FONTS, FONTS

ALTSYS Corporation
720 Avenue F, Ste. 108
Plano, TX 75074
(214) 424-4888

Altsys Corporation is making available fonts designed with their *FONTastic* software. They have chosen some of the most professionally-created fonts and are making them available for distribution. Included are technical, foreign language, and other distinctive fonts. Call or write for details.

FONTS, FONTS, FONTS II

Shenandoah Macintosh Users Group
15 Southgate Ct.
Harrisburg, VA 22801
(703) 433-1527
Suggested donation: $35.00

In response to numerous requests to consolidate Public Domain fonts from across the country, SMUG has put together over 200 fonts onto a ten-disk set. This ten-disk set includes a font tutorial, numerous fonts documents, font utilities, ready-to-print *MacPaint* disk jackets, and a slide show style 'guided tour' directory of one-line font samples found in the collection. The fonts in the collection are PD and thus free, but SMUG requests a $35.00 disk and copying donation to raise funds for a proposed BBS project.

LASERWRITER BUMPER MESSAGES

ClearSnap
P.O. Box 98
Anacortes, WA 98221
(206) 293-6634

ClearSnap is a plastic insert that attaches to your bumper so that you can place LaserWritten graphics or messages on your car. Graphics can be printed on standard paper and inserted into the ClearSnap plastic. Replaces standard bumper stickers.

TWO PLAYERS — TWICE THE FUN

Strategic Conquest Plus
PBI Software, Inc.
1111 Triton Dr.
Foster City, CA 94404
(415) 349-8765

PBI Software has released a new version of *Strategic Conquest Plus*. It features digitized sound, improved graphics, automated saving, and more. It now allows two players to battle one another directly over AppleTalk.

MAKE YOUR MAC PLUS THINK IT'S A MACINTOSH II

Prodigy Prime
Levco
6160 Luck Blvd., Ste. C-203
San Diego, CA 92121
(619) 457-2011
Suggested Retail Price: $1995.00

Levco unveiled its Prodigy Prime Macintosh enhancement board at Macworld Expo. The base configuration for the board features a 16MHz 68020 CPU, one megabyte RAM memory, an internal fan, a non-volatile RAM disk and an additional power supply. The Prodigy Prime is user-installable and easily clips on a Macintosh 128K, 512K, or Macintosh Plus motherboard.

AWARD WINNING CHESS SIMULATION

Chessmaster 2000
Electronic Arts
1820 Gateway Dr.
San Mateo, CA 94404
(415) 571-7171
Suggested Retail Price: $49.95

Chessmaster 2000 is an award-winning chess playing program for the Macintosh which won the 1986 U.S. Open Personal Computer Chess Championship. The game features 12 levels of play, ranging from 'Newcomer' to 'Grandmaster' and a 'Teach Mode' that shows all possible legal moves.

PUT A W.O.R.M. ON YOUR APPLE

LoDOWN WORM
LoDOWN
10 Victor Sq., Ste. 2000
Scotts Valley, CA 95066
(408) 438-7400
Suggested Retail Price: $5995 (400 meg.), $7995 (800 meg.)

LoDOWN announces the first high capacity W.O.R.M. (Write Once Read Many) disk for the Macintosh. Connecting to the SCSI port with a single cable, the LoDOWN WORM provides vast amounts of storage (400 or 800 megabytes) onto removable optical laser media disks while protecting the disk from accidental erasure.

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Don't get ripped off! 400K or 800K disks for a $3.00 copying charge per disk. One day turn around, free shipping, and every 6th disk free. For a catalog with full program descriptions, send $1.75 or a formatted disk with return postage to: CHA Services, Inc./Dept. Z, Post Office Box 622, Lincoln, MA 01773, (617) 891-1981.

SECOND THOUGHTS ABOUT FIRST AID FOR YOUR DISKS AND FILES

By Howard Bornstein

Howard Bornstein is a Macintosh consultant and the author of Under the Apple—Discovering the Power of Macintosh Desk Accessories, *published by InfoBooks, Inc. He can be reached at 415-328-9181, P.O. Box 1245, Menlo Park, CA 94025, CompuServe 76174,637, or at "H.Bornstein" on GEnie. He welcomes your comments.*

Remember those red-and-white first aid kits that Johnson and Johnson used to make? The kind you'd put in your car glove compartment just in case you came upon an accident? They were always full of an odd assortment of medical paraphernalia—gauze, ammonia ampules, water purification tablets, razor blades—and there was always a little booklet entitled *How to Give First Aid to Dying People* which no one ever read.

My friend Bill Hampton had one in his car the day he bumped into a politician on his way to City Hall to pay a traffic ticket. He knocked the guy down on the City Hall steps and this politician fell flat on his back and was out cold.

MAYOR DAYS BE TROUBLE-FREE

Bill ran back to the car and got the first aid kit. Of course, he had never read the booklet telling him what to do in case he knocked out a politician. So he gave the guy an ammonia ampule and a couple of water purification tablets. Had he bothered to read the booklet, he would have found that the only way to revive an unconscious politician is to give him lime jello with little strips of bologna in it. The unfortunate result was that the politician sued my friend for practicing medicine without a nice office.

I thought about this incident recently when one of my Macintosh diskettes was injured in a freak traffic accident. I wondered if there was a first aid kit for the Macintosh. For several months I thought about writing a column about file and disk recovery. This is an important issue that will be of concern to every Macintosh user some day. But the thought of trying to explain the intricacies of *ResEdit*, *Fedit*, *MacZap*, and *MacTools* put me into a dark and dangerous mood.

FIRST AID IS NOT ALL COFFEE AND DONUTS

I was obviously overjoyed when I came across a product called *1st Aid Kit—File and Disk Recovery for the Macintosh* by 1st Aid Software *1st Aid Kit* is significantly different from *Fedit* or *MacZap*. Rather than being an esoteric file and disk manipulation program, it is a solution cookbook for disk and file problems. *1st Aid Kit* comes with several recovery programs on it and a 287-page book. Unlike the booklet in the old car first aid kits, this one is worth reading.

The book, which comes loose-leaf in a vinyl binder, is the main part of the product. It is a superbly written and organized manual that can help you out of the suicidal depression that comes after inadvertently trashing an important disk or file.

This is a calamity that is bound to befall every Mac user eventually. Either you throw an important file into the trash and empty it, only to realize later that you desperately need the file back, or you are just about to print out that important 45-page project paper, except you want to make just one more little change and *pow*!—you get a system crash and the file becomes unreadable.

If *1st Aid Kit* just dealt with these kinds of calamities, it would be valuable enough, but it is designed to educate you about *most* of the abnormal situations you are likely to run into with your Macintosh. The book takes you through background information about the causes of data loss, including a tutorial about how the Macintosh deals with files and disks. While not necessary to recover from file crashes, this information is useful in understanding what has happened and how to correct the problem. *1st Aid Kit* also stresses prevention as a primary method of first aid. Like human medicine, this can't be overstressed. As the old adage goes (updated to incorporate the metric system) 'A gram of prevention is worth a kilogram of cure.' *1st Aid Kit* supports both the prevention as well as the cure.

HARD CORE HELP

The core of the book consists of three chapters called 'Error Messages,' 'Troubleshooting Procedures,' and 'Recovery Procedures.' 'Error Messages' contains an alphabetical list of all the error messages that the Macintosh might produce (obviously it can't contain *all* of the possible error messages, since many of them come from applications, but it does include most of the system messages as well as messages from the *Finder* and *MacWrite* and *MacPaint*). Example error messages include: *There isn't enough room to remember this disk* and *This application is already open or is missing. Try again.* Of course, the critical error messages such as *This disk is damaged: Do you want to initialize it?* are also included.

Each error message is followed by one or more references to the troubleshooting and recovery sections of the book. The troubleshooting section lists various typical problems with a variety of solutions, ranging from the trivial to the complex, depending on the severity of the problem. Examples of troubleshooting headings are: *Locked, In Use,* and *Stuck Files*, and *Sad Mac Icon (Crashes During Startup)*. Each troubleshooting section contains step-by-step actions to take to solve the problem. *1st Aid Kit* tell you what to expect and why, and what to do about the problems. These descriptions are written in a clear, cookbook-style manner. Following the troubleshooting steps in each section is a list of related references, listed by topic and page number.

RED CROSS-REFERENCES

The entire book is heavily cross-referenced, since you may often need to look up information about several related items in order to fix a problem. Not only does *1st Aid Kit* give you easy to follow instructions and comprehensive cross-references, but 1st Aid Software supplies a package of page markers so you can mark pages in many different parts of the book and flip between them easily.

The recovery procedures teach you how to use the recovery programs that come with the *1st Aid Kit*. Each recovery procedure is given in a simple step-by-step manner with references to other parts of the book for clarifications. The *1st Aid Kit* program will let you perform vital recovery procedures such as rebuilding the disk boot blocks, checking and repairing the volume directory and the file directory, and recovering bad files and deleted files. A special program, called *Rescue*, will recover trashed *MacWrite* files.

THE 1ST AID PROGRAM—MOUTH-TO-DISK RESUSCITATION

The *1st Aid* program is simple to use with prompts given every step of the way. Special checking is done to make sure that the novice doesn't get into trouble. This is done to such an extent that experienced disk hackers may get impatient with the program. But it doesn't really slow things down and the hackers can always go back to *MacZap* for comfort.

One important step that is often required in recovering a file is to reassign its file-signature, which consists of its creator and

Compare.

"Not all memory upgrades are created equal."

Carlos Suarez
President

To help clear up the confusion about Macintosh Plus™ memory expansion products (and to point out some of the reasons why our MaxPlus 2Mb upgrade immediately became the world's best-selling Macintosh memory board), we offer this list of five key questions to ask when comparing products.

1. Will it let me expand to 4Mb?
YES ***MacMemory, MaxPlus***
NO *Dove*

2. Does it use the same surface-mount technology Apple® uses?
YES ***MacMemory, MaxPlus***
NO *Levco, Dove*

3. Do I get extras like RAM disk and print spooler software?
YES ***MacMemory, MaxPlus***
NO *Levco, SuperMac*

4. Will I have toll-free technical support and the longest board warranty available? *(Two years)*
YES ***MacMemory, MaxPlus***
NO *Levco, Dove, SuperMac*

5. Am I getting the most for my money?
YES ***MacMemory, MaxPlus ($399)***
NO *Levco ($395)*
Dove ($399)
SuperMac ($499)

For a more extensive comparison chart, and the dealer nearest you, just call us at 800-862-2636, or 408-922-0140 inside California.

**Data compiled as of December 1, 1986. Competitive products compared: Levco: OnePlusOne, Dove: MacSnap2, SuperMac: SuperRAM. MacMemory: MaxPlus.*

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Beyond Compare.

Shift into high gear with TurboMax™, the high-performance accelerator board we loaded with all the features a power user needs. (Coming in February)

We started with *speed*. We added a new, more powerful 16 MHz CPU to nearly triple the speed of the Mac™. *Really* serious number crunchers can plug in the optional 68881 math co-processor to achieve speeds *hundreds* of times faster than a standard Mac.

We added *memory*. 1.5 Mb of *extra* memory that runs large programs easily, and can expand to a full 4 Mb to do even more.

We added our super-speed *SCSI port*. It nearly doubles the speed of the SCSI on your Macintosh Plus, and *adds* the high-speed SCSI to your Mac 512K. Hard disks run faster. (And internal hard disks will just plug in.)

We made sure your Mac would remain *100% compatible* with your software.

We built in *MaxSave™*, our hardware/software system that gives you a reliable, recoverable RAM disk in memory and the ability to work while your ImageWriter™ prints. To complete the package, we included an additional power supply, internal fan and a full, two-year warranty.

And price? Beyond compare. For the price of its closest competition you can buy the TurboMax and *two* Excels (the spreadsheet from Microsoft *and* the car from Hyundai).

Who could ask for anything more?

"A Macintosh™ accelerator board is on every power user's wish list. But price kept most of us wishing. We worked hard at MacMemory to produce the power board you need at the price you can afford."

John Lozano
Engineer

Math Co-Processor
Optional 16MHz 68881 floating-point chip addressed as peripheral to 68000. Works with all programs using SANE or offering 68881 support.

SCSI Port
Added super-speed SCSI port, up to two times faster than the Macintosh Plus. Adds 50-pin port to 512K Macintosh or speeds up existing MacPlus port. Ready for optional internal hard disk.

CPU
16MHz 68000 processor. 200% faster than the Macintosh or Macintosh Plus. Addresses all daughterboard RAM with no video wait states for overall speed improvement of 250%.

RAM
Additional 1.5 Mb of 120ns RAM, structured as 256K x8 SIMM modules. Expandable to 4Mb with addition of two 1024Kx8 megabit modules.

MacMemory

The Macintosh Performance Family

2480 North First, San Jose, California 95131 / 800-862-2636 in California 408-922-0140

MISSING A BACK ISSUE?

MACazine

Our back issues are gone from the newsstands, but not forgotten. They offer fresh innovative ideas. Some examples are:

- ☐ Premiere Issue—Dec 1984—PC to Filevision
- ☐ Jan 1985—Comdex
- ☐ Feb—Filevisions Application
- ☐ Mar—Romancing a Classic (128K Mac)
- ☐ Apr—Digitize: From Image to Screen to Printer
- ☐ May—Exploring the World of Desktop Tools & Accessories
- ☐ June—Professional Composer
- ☐ July—MacPaint and The Masters
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type. Each file has a special four letter code that tells who created it and what type it is. If you don't know what the file signature is for a certain kind of file, you have to look at a similar file to discover the signature. This is a hassle if you are not sure what type of file you are recovering and if you don't have a similar file handy. *1st Aid Kit* comes to the rescue by providing an appendix with the file type and creator for over 800 kinds of files! And the list is sorted by both Application and by creator. The book has an extensive section on Macintosh internal error codes, like the ones that appear in the Bomb box.

1st Aid Kit also tells you about the different versions of the system software that are floating around and lets you know which versions you should be using. It covers the files you need to print with either the ImageWriter or the LaserWriter.

M.D.'S OR M. DEITIES?

Just as real doctors get to practice their skills on test subjects (i.e., undergraduates) before going out into the real world, *1st Aid Kit* gives you the chance to practice on test cases of disk and file problems so that you'll be an old hand when your particular calamity strikes. Three 'bad' disks are provided with *1st Aid Kit*, each having a variety of problems. You get to practice on these disks first. A tutorial in the book walks you through each repair step so that by the time you're done, you'll feel like the Albert Schweitzer of MacLand. Pretty soon you'll be hoping for a power failure or system crash just so you can try out your new skills.

The book ends with a glossary and an index, so it's easy to find a topic or deal with new terms. This book is obviously written by people who know what they are talking about and who can take complex ideas and explain them simply. The organization of the book makes it stand head and shoulders above any other product like it.

MALPRACTICE INSURANCE

1st Aid Kit isn't the 'magic pill' of computer health. *1st Aid Kit* will not take the place of using your common sense while working with your disks. It also lacks a significant feature. Version 1.0 only works with MFS disks. It does not support the Hierarchical File System (HFS) on the Mac Plus and the Macintosh Enhanced. This may not be as bad as it first appears. For files that won't open, you can simply copy them to an MFS disk and repair them there. Many of the difficulties described in *1st Aid Kit* are independent of the file system. However, there is a class of problems that *1st Aid Kit* won't handle. If you have an 800K floppy that you can no longer mount, *1st Aid Kit* will not be able to help you.

1st Aid Software is currently working on an HFS upgrade and plans to make it available to registered users for about $10. It may be available by the time you read this. Don't delay getting *1st Aid Kit* because HFS isn't available, however. It will pay for itself many times over the first time you recover an important file you threw away accidentally. I can't recommend *1st Aid Kit* strongly enough. It is a quality product that fills a real need.

THE OTHER FIRST AID

In case you *are* having troubles with your HFS disks or files, there is another recovery program called *Disk First Aid*, by Apple Computer, that can fix problems with HFS disks. It comes with no documentation, although it is very easy to use. You may be able to get it from your Authorized Apple Dealer and it is available on CompuServe and GEnie. As I was writing this article, I trashed my HD20 with about 19 megabytes on it (and no, I didn't have a recent backup, if you feel you must know). Fortunately, after about 6 hours of panic and heavy sweating, I fixed my disk with *Disk First Aid*. I now bow reverently every time Karl Young's name is mentioned.

1st Aid Kit 1.0
1st Aid Software, Inc.
42 Radnor Rd.
Boston, MA 02135
(617) 847-4190
$89.95

Disk First Aid 1.0
by Karl B. Young
and Bill Bruffey
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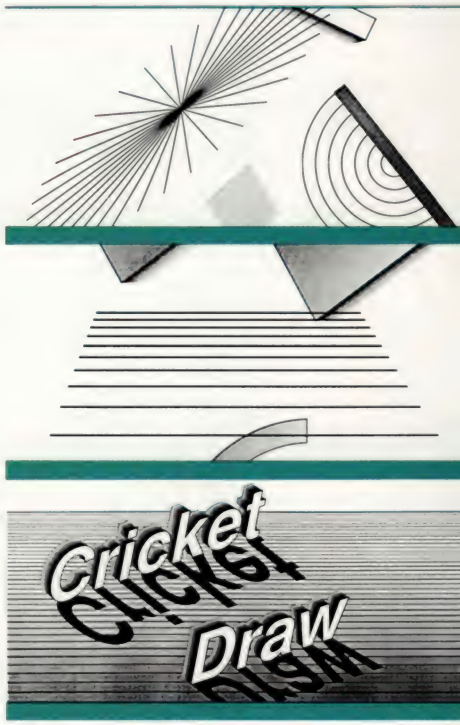
DRAW PERFECTED

I N T R O D U C I N G

CRICKET DRAW

Draw has been around as long as the Macintosh. It took Cricket Software to perfect it. Finally, the Mac's graphics capabilities can truly be realized with Cricket Draw, the revolutionary new draw program from Cricket Software.



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Special effects with text are Cricket Draw's forte. Place text on any arbitrary path; rotate, tilt, shadow, shade — YOU NAME IT!

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Precision drawings? How about vertical and horizontal rulers with your choice of inches, centimeters, picas or pixels? Also, you can show the measurements of any object, precisely align objects using grids or guidelines, zoom-in, zoom-out — Cricket Draw has it ALL.

A POSTSCRIPT CODE GENERATOR

High quality graphics output on a laser printer requires knowledge of PostScript. Cricket Draw is actually a PostScript code generator. It does all the work. You never have to come in contact with PostScript, UNLESS you want to. Then you can access a PostScript window to edit or create your own code from scratch.

ADVANCE TO CRICKET DRAW

Your current draw program is simply obsolete, why not advance to Cricket Draw, just $295, available at local dealers everywhere.

cricket software

Anything Less Isn't Quite Cricket

Requires a 512K Enhanced Macintosh or a Macintosh Plus.

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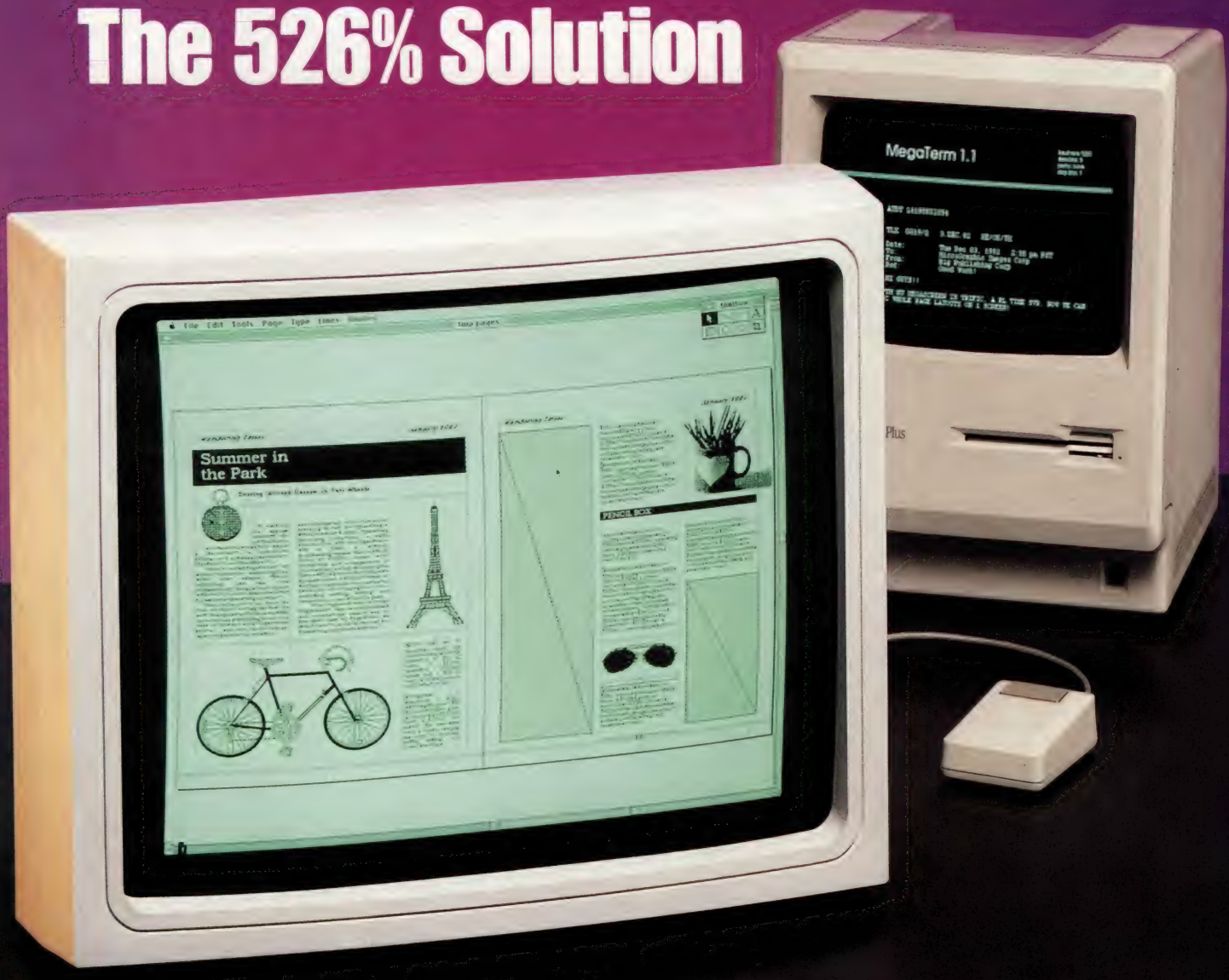

MegaScreen II's 19.5" monitor gives you a 526% bigger picture than your Macintosh™ computer, at a new lower price! And MegaScreen II is bigger, brighter, and features the highest resolution of any big screen on the market today.

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It keeps getting better.

Drawing Environment

Choose your scale and units and MacDraft will do the rest. Dimensions of objects, snap grids, rulers, cursor positions, area calculations and auto dimension lines will be computed for you.

New Features:

Resize groups & bit maps proportionally. Bit maps can also be stretched in an X, Y direction independently.

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MacDraft is now sold with no copy protection.

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64 Fill & ink patterns plus dynamically edit, create and save your custom patterns.

Plus:

Create circles by radius or diameter, arcs by radius or defining 3 points. For irregular shapes our polygon and freehand tools offer dynamic editing, auto closure and adding sides to an existing object. Zoom in and magnify a portion of your drawing up to 8x; or zoom out and see as much as 4′ x 4′ in a single window, maintaining full drawing capabilities at any view. Even rotate objects 1° at a time.

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MacDraft is only $269.00, yet it offers the majority of drawing capabilities of CAD systems costing much more. It is the only drafting program that takes full advantage of the Macintosh user interface.

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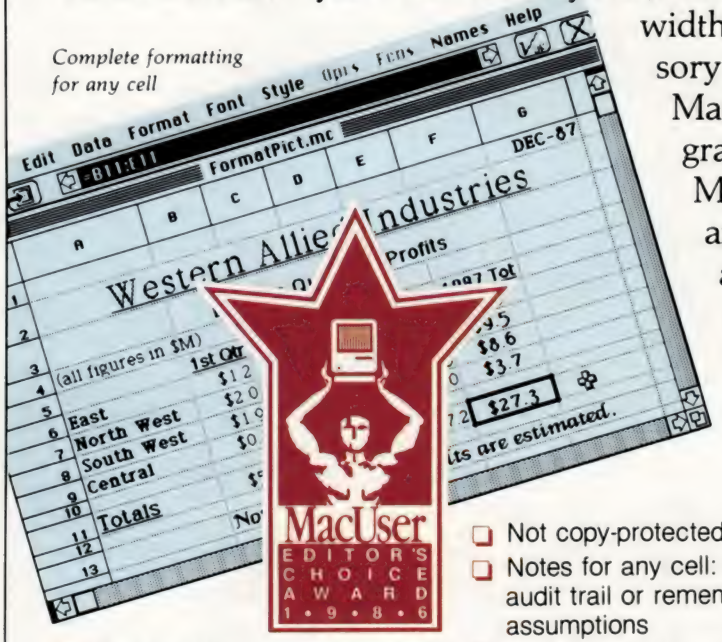
MacCalc

Speed, Style, Simplicity

To be fast is not enough—the speed must be easy to use. We set out to make MacCalc fastest in this fullest sense...and succeeded. MacCalc is blindingly fast—and that speed is available to the novice as well as the power user. And not only is MacCalc easy, we also included the most important "wish list" features, like cell notes, database search / sort commands, complete formatting with variable fonts / styles / sizes for any cell, variable row height and variable column width, and more. With full desk accessory support and Switcher-compatibility, MacCalc provides access to your favorite graph and keystroke macro programs. MacCalc is focused—simply the easiest and the fastest spreadsheet available... and if that's not enough, MacCalc is also the lowest cost! Ease, speed, style and simplicity. MacCalc.



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—*Infoworld* software review, 3 November 1986

"MacCalc's one of the best programs I've ever bought...It has an excellent manual...[Bravo] did a terrific job."

—a Financial Analyst in New York

"MacCalc is a well-designed and powerful product for those who require a full-featured spreadsheet...It is easy to learn, fast and efficient, and is a very good buy..."

—*MacWorld*, December 1986

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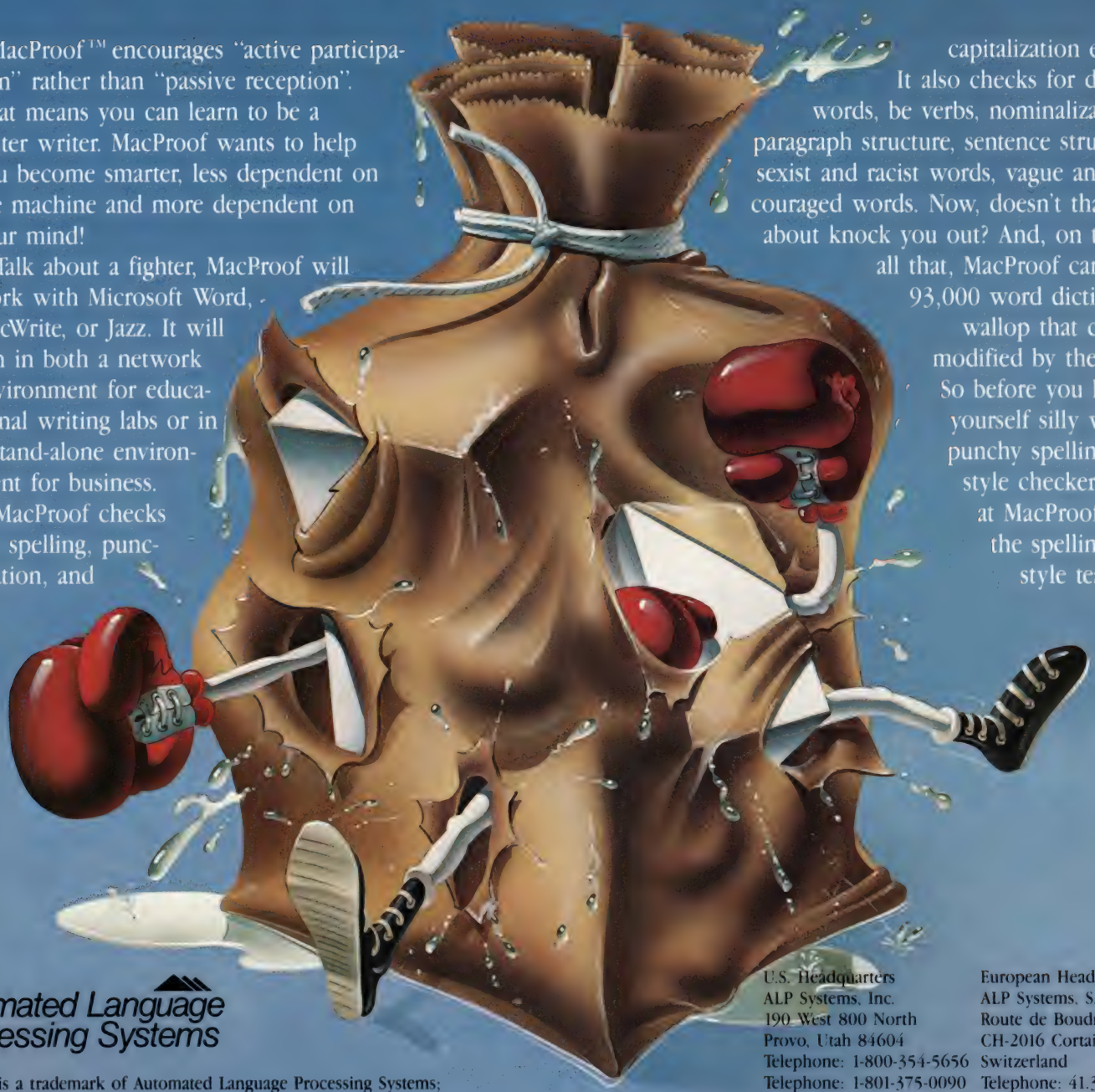

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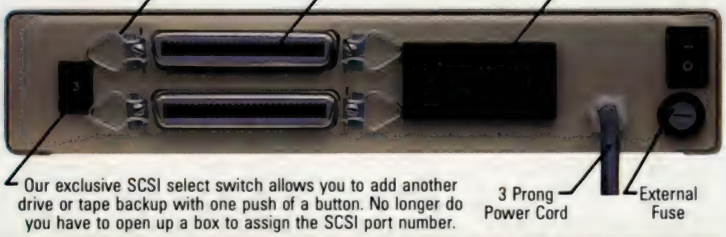
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Our ultra quiet fan pulls air through the drive and sends it out the bottom

In a world full of experts and overpriced product lines, Mac enthusiasts dream of a company that will give them quality engineering at a price the rest of us can afford. Here's how Jasmine fulfills that dream:

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The Mac was designed for the rest of us. Nothing complicated. No archaic language. Elegant simplicity.

Then something happened. Users are asked to solder, open boxes and become technicians. In the SCSI drive market, Jasmine finally put an end to that.

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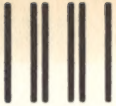

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